





# Harvard Medical

## A L U M N I B U L L E T I N



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Building A  
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One thing is certain, these are the times of change when everyone, including the *Bulletin*, must be concerned with the present and future of our profession. Clearly there is need for wisdom within the medical profession and the external political order. "The care of the patient" falls all too easily behind "managed care"—the "market share" preempts "community service"—"alliances" take over "practices."

To face this avalanche of problems, Dean Tosteson '48 leads off in this issue with his thoughtful concerns about the future of Harvard Medicine, in particular how the school with its affiliated hospitals can preserve its faculty and teaching base. He is followed by a "town meeting" of Harvard Medical School alumni in Philadelphia, which provides a discussion of health care reform, December 1993 style.

Kenneth Shine '60, president of the National Institute of Medicine follows and warns of the risks to the health science research in the present scene; his concerns are echoed by three department heads at the school: Marc Kirschner (cell biology), Philip Leder '60 (genetics) and Gerald Fischbach (neurosciences).

On the clinical side, John Stoeckle '47 and his colleagues explain how Harvard meets some of the demands for primary care while Terri Rutter talks to Thomas Inui about HCHP; Ellen Barlow reports on Barbara McNeil's '66 Bridges program, relating spiraling health care costs to technological developments; Josh Hauser '95 voices the students' insecurity during the Great Debate as they await the moment of clarity; finally to fuel the debate, our Canadian alumnus and columnist, Kenneth Walker '50, provides a free-wheeling commentary on the much debated Canadian Health Plan

The issue ends on a historical note: Gil Sanchez '49 writes of James Michael Curley, mayor of Boston City Hospital. Comparatively speaking we, indeed, live in uncertain times.

*Gordon Scannell '40*

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# Letters

## A Son Says Thanks

I was mightily touched to come across "The Shortened Step" (Winter 1993/94) with that perhaps most characteristic of all photos of the author. The notion of Dr. Palfrey's dyspneic old patient chugging sturdily up Beacon Hill sort of after the manner of the Mt. Washington Cog Railway amused and delighted my namesake—as it does me, now that I'm on the verge of the chugging stage!

It is very gratifying to see the first editor of the *Bulletin* so relevant and so warmly remembered by his successors. And the rest of the issue was extraordinarily good, too!

*Joe Garland*

## No Nursing Home for Us

Apropos of John Stanbury's article on nursing homes, my sister and I say, "Right on!" We are well into our own Medicare years and have sometimes resented spending this precious time of our lives making it possible for our mother to remain in her own home.

"There's No Place Like a Nursing Home" (Winter 1993/94) has reminded us that our frail but competent mother does not belong in a nursing home, despite her 95 years.

*Rae Green*

*(widow of Thomas H. Green '46)*

# Pulse

## New Risks for Colon Cancer

New insights into genetic and behavioral risks for colon cancer have emerged as a genetic determinate is discovered and cigarette smoking is implicated.

Richard Kolodner, HMS professor of biological chemistry and molecular pharmacology and a molecular biologist at Dana-Farber Cancer Institute, and one of his former post-docs, Richard Fishel, now a professor at the University of Vermont, discovered a genetic flaw that causes a syndrome called Hereditary Nonpolyposis Colon Cancer, or HNPCC. Colon and rectal cancer strikes about 152,000 Americans each year; 57,000, or one-quarter, will die from the disease. One out of every 10 cases is caused by HNPCC.

This gene is one of two known to normally repair genetic mutations in a cell's DNA. Approximately 1 in 200 people in the United States inherits a damaged copy of the gene. Mutations thus recur, paving the way for the unchecked proliferation of cancer cells. Kolodner and Fishel reported their findings in the December 3 issue of *Cell*. A team of researchers from Johns Hopkins, led by Bert Vogelstein, reported the discovery in the December 17 issue of the same journal.

Kolodner hopes that a commercial blood test for high-risk people—those who come from families with a history of colon cancer—to screen for the gene will be available in about a year.

Smoking for 10 years or more has also been shown to be a risk factor for colon cancer. Two studies conducted by a team of researchers from the medical school, the Harvard School of Public Health and Brigham and Women's Hospital based its findings on information drawn from 118,000 women enrolled in the Nurses Health

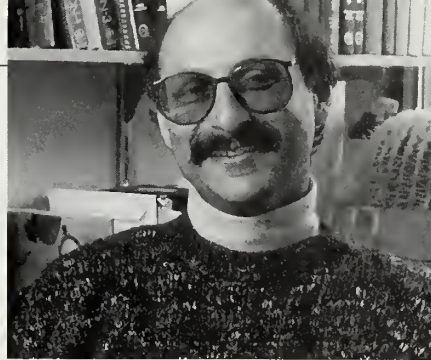


photo by Steve Gilbert

**Richard Kolodner**

Study and 51,000 men enrolled in the Health Professionals Follow-up Study. The studies were led by Edward Giovannucci, MD, HMS instructor in medicine, and were funded by the National Institutes of Health, the National Cancer Institute and the American Cancer Society.

Unlike risk for lung cancer, which drastically decreases with smoking cessation, people who smoked over a pack of cigarettes a day for at least 10 years—even if during their youth, or before age 30—set their risk for developing colon cancer by age 65 irreversibly in motion. The link between smoking and colon cancer has not been seen before, says Giovannucci, because colon cancer takes so many years to develop, approximately 35.

Giovannucci speculates that the carcinogens in the smoke reach the bloodstream and are then carried to other organs, such as the colon. Similarly, carcinogens may cause mutations of the adenomatous polyposis coli (APC) gene, which leads to the development of small polyps in the colon during the first few years of life; over the next several decades, these polyps grow and develop into cancers.

**Edward Giovannucci**



photo by Barbara Steiner



## Awarding Research

Funds for Discovery—the awards program launched in 1992 by philanthropist and inventor John Taplin to fund promising young researchers—has announced its 1994 recipients. Each will receive \$50,000 to continue their investigations, with the expectation that they will ultimately lead to a marketable product or technology. They are:

- Joel Belasco, PhD, associate professor of microbiology and molecular genetics, for his work on mRNA stability;
- David Golan, MD/PhD, assistant professor of biological chemistry and molecular pharmacology, who will study new equipment and procedures in improving to in-vitro fertilization;
- Karl Munger, PhD, assistant professor of pathology, who is investigating how the dimerization of E7 protein may thwart the growth of cancer cells;

John Taplin, far right, with awardees: (l-r) David Golan, Joel Belasco, Joel Swanson and Nabuki Nakanishi. Taplin has adopted the nautilus shell as a representation of perfection to symbolize the Funds for Discovery awards.

- Nabuki Nakanishi, PhD, assistant professor of neurobiology, to develop mutant mice with altered NMDA receptors, which may lead to a better understanding of the role of NMDA receptor activation in neurodegenerative diseases;
- and Joel Swanson, PhD, associate professor of cell biology, who hopes to develop improved liposomes for delivering antimicrobial drugs to macrophages.

## Connie Cepko Heads New Program

In January of this year, the graduate program in cell and developmental biology and the tri-department program—biochemistry, pharmacology, and genetics and microbiology—merged to create the new HMS graduate program in biological and biomedical sciences, BBS. The merger reflects a similar direction in biological sciences study as the disciplines—cell biology, genetics and biological chemistry—grow closer together and become more integrated.

“The same type of science was done in both programs. It was an artificial separation,” says Connie Cepko, PhD, professor of genetics and head of the newly created program. Currently, around 300 doctoral students are being brought together in the new program. They will be able to choose which set of requirements to pursue: existing degree requirements or the new ones, which Cepko and the BBS Executive Committee have recently developed. It is anticipated that in the fall, nearly two-thirds of the incoming doctoral students will enter the new program. “I want this to be the best graduate program in the country,” she says.

Cepko has appointed Cliff Tabin, assistant professor of genetics, as associate head of the new program, and together they have consulted with over 100 students to determine what they think makes a good program. Cepko, Tabin and the executive committee are developing a new curriculum for the program. Core courses are being designed with an emphasis on the fundamentals of genetics, cell biology, biochemistry, microbiology and molecular biology.

The goal for the program, says Cepko, is to produce scientists who have the knowledge and skills for “pursuing any problem in modern biological research.”



photo by Barbara Steiner



Connie Cepko

Cepko came to HMS in 1985 from MIT, where she earned her PhD doing graduate work on the molecular biology of viruses with Phillip Sharp, winner of the 1993 Nobel Prize in Medicine or Physiology. The first woman to become a full professor in the Department of Genetics at the medical school, Cepko drew high praise from department head Phil Leder upon her appointment: "Not only is she a marvelous and accomplished scientist, but she has the type of leadership qualities that will add enormously to the new program."

Cepko's own research investigates how development of the brain occurs. She and members of her lab conducted NIH-funded experiments on mice, rats and chicks that revealed that environmental cues, not genetic information alone, influence what cells in the brain and retina become. By marking progenitor cells with retroviruses, which provide an indelible mark on each daughter cell of an infected "mother" cell, Cepko discovered that the "daughter" cells differentiate into many different types of neurons, suggesting that some sort of external signaling mechanism is influencing what these cells become. The next step is to pinpoint the exact mechanism and timing of the signaling.



Fred Alt

#### Janeway Professorship Named

Frederick W. Alt, PhD, has been named the first recipient of the Charles A. Janeway professorship at HMS. The chair was established by friends and family of the late immunologist and professor of pediatrics.

Alt, formerly professor of genetics and pediatrics at HMS, is also an investigator at the Howard Hughes Medical Institute at Children's Hospital and a senior investigator at the Center for Blood Research. He and his research team have identified the proteins necessary for maturation of B- and T-cells, essential to the immune system's ability to ward off infection.

They are now trying to create the X-linked agammaglobulinemia (XLA) gene mutation in mice. XLA is a genetic disorder that leads to a deficiency of B-cells in men, disabling the body to fight infection. Thus, those afflicted with XLA have a life span about half that of a healthy individual.

Alt came to HMS two years ago from the biochemistry department at Columbia University, where he had been since 1982. Before that he was a post-doctoral fellow at MIT and a research associate at the Whitehead Institute.

Charles Janeway served as physician-in-chief of Children's Hospital from 1946 until 1974, shortly before his death in 1976. He distinguished himself in research into the prevention of measles and hepatitis, and was involved in the discovery of agammaglobulin. At Children's, he established the Family Health Care Program, which provided training in family medicine to medical students and physicians. Janeway also helped found medical schools in Africa and Iran (see *Bulletin*, Winter 1992/93).



Ming Tsuang

#### MMHC to Expand

With an eye towards a more intensive effort researching the causes and best treatments for severe mental illness, Ming Tsuang, Stanley Cobb Professor of Psychiatry and new head of psychiatry at Massachusetts Mental Health Center, wants to steer MMHC in a new direction.

Tsuang, who has been chief of psychiatry at the Brockton/West Roxbury V.A. Medical Center since 1985, wants to revitalize MMHC by building a new facility that will serve as an inpatient evaluation unit for the severely and chronically mentally ill. The new space will also house a center for research into new drug treatments for mental illness, as well as the biochemical, genetic and social factors that all combine to create this disease. Currently, MMHC provides outpatient and day-hospital service to about 1,100 patients a year.

Miles F. Shore '54 moved from the position of superintendent at MMHC in July 1993 and is now director of the Division of Mental Health Systems in the Consolidated Department of Psychiatry and is a scholar in residence at the John F. Kennedy School of Government.

For his own research, Tsuang is known for characterizing the difference between schizophrenia and manic-depressive, disorder. Currently he is looking for the genetic determinates of schizophrenia. In a collaborative effort with Columbia and Washington universities, funded by the National Institute of Mental Health, Tsuang is working to identify 200 families who have two or more afflicted members. He also wants to



examine 200 additional families of schizophrenic patients at the V.A. hospital—a project being funded by the V.A. Health Services Research and Development office. Tsuang and his colleagues hope that DNA samples taken from the subject families will lead to the discovery of a schizophrenia gene.

“There is no question that there is a genetic element to schizophrenia,” he says. “The issue is: Is it only one gene? Is it two or three genes? Or do many genes accumulate to cause schizophrenia? Where are the environmental risk factors? How do the genes and the environment interact?”

Tsuang’s other goals for expansion include the creation of a Harvard Institute of Psychiatric Epidemiology and Genetics, a joint project between HMS and the Harvard School of Public Health. “There are many challenges on the horizon in mental health and health care reform, and I hope to contribute in those areas,” he says.

## Medicine Above All

For four years in a row graduating seniors from Harvard College have shown an increasing interest in medicine as a career. An Office of Career Services (OCS) survey of the Class of 1993 indicates that 15.2 percent of students favor medicine over business (14 percent) or academe (14.3 percent), up from 13.1 percent in 1992. Women who favored medicine significantly outnumbered men.

According to Sarah Gelberman, assistant director for careers in medicine at OCS, “The principal reason students give is that they really want to be involved in a profession that is ‘intellectually stimulating and that allows them to directly enhance the well-being of others.’”

The depressed economy may be yet another reason for this trend. Says Martha Leape, director of OCS, “Medicine still looks like a career with stability; you don’t read about doctors being laid off.”

## Designer Genes

Long, long ago in a galaxy far, far away a famous geneticist secretly cloned Harvard Medical School. And it was called...“Thoracic Park.” The Second-year Show rocked and shook one February weekend in this zooy adaptation of last summer’s blockbuster. Here Sandy Vasan performs “Arm or Leg” to the tune of Michael Jackson’s “Black or White.”



photo by Barbara Steiner

by Robert J. Glaser

The second meeting of the Harvard Medical Alumni Council for the 1993/94 academic year was held on January 27 and 28, 1994. After review and approval of the minutes of the previous council meeting, Edward Hundert '84, associate dean for student affairs, introduced three students, Rushika Fernandopulle '94, Roger Sawhney '95 and Abimbola Aina '97, to present their views on health care reform. Each of the students began with a brief autobiographical sketch of his or her educational background and aspirations in respect to a career in medicine, and then discussed health care reform from his or her perspective. The students were admirably articulate in stating their views and, in doing so, each referred to various aspects of his or her medical education experience at HMS.

There was a lively discussion after each student presentation, with council members commenting and posing questions. The current situation on inpatient services—notably the high percentage of patients in intensive care, coupled with short patient stays—contrasts quite dramatically with that, which obtained when older members of the council were students. The students, currently in their clinical years, commented on the challenge that results from their relatively limited contact with patients on the clinical services. They also expressed some concern about the impact of managed care on clinical teaching, because of its emphasis on rather rapid movement of patients through ambulatory clinics.

After the meeting, the students and council members dined together in the Vanderbilt Hall Common Room, where the discussion begun earlier continued on an informal basis.

The council reconvened on Friday, at which time the discussion focused on the impact of health care reform on



medical education and house officer training. The second item on the day's agenda was a presentation by Dean Hundert on some of the characteristics of the Class of 1994. He reviewed the students' career plans, as indicated by internship and residency choices of the class, and described the features of the matching plan, whereby the substantial numbers of married students (or those contemplating marriage in the near future) can be assured of obtaining appointments in the same hospital or in the same geographical location. The number of fields in which appointments are offered has increased over what was the case in an earlier day, and the percentages of the class going into given fields have changed, in some instances rather significantly. Thus, a few years ago, medical internships on a number of leading services were left unfilled. This year, the number of students seeking internships in internal medicine have doubled over last year.

The council then heard from Dean Daniel Tosteson '48, who reviewed several topics of current interest, notably the recently announced merger of the Massachusetts General (MGH) and the Brigham and Women's (BWH) hospitals. Earlier, Dean Tosteson had brought together senior representatives of five of Harvard's major teaching hospitals—MGH and BWH, and Beth Israel, Deaconess and Children's—to explore ways in which the institutions might best cooperate in an era of change. The dean expects that this effort toward overall coordination will go forward with the continued participation by MGH and BWH.

Dean Tosteson, along with the deans of other leading medical schools, has been involved in efforts to ensure that new health care programs ultimately resulting from legislation will recognize the key role of academic health centers in the overall fabric of

American medicine. He expressed the view that the "message" did get through to those involved at the highest levels.

Finally, the dean commented on uses of clinical practice income in the teaching hospitals, a topic of interest and attention at many medical schools. Although the situation at HMS differs in some ways from that at most other medical schools, which have only one or two major teaching hospital affiliations, many facets of the subject are common to all institutions.

The remainder of the council's deliberations included the following: 1) consideration with Dean Daniel Federman '53 and Alumni Association executive director Nora Nercessian of the Alumni Week program next June; 2) review by Federman of the budgets for the Alumni office and the *Bulletin*; 3) report on the *Bulletin* by J. Gordon Scannell '41, editor and Ellen Barlow, managing editor; 4) report on the Alumni Fund from Doris Bennett '49, chair, and Kate Hill, director of alumni giving.

As I noted in my report in the Winter 1993/94 *Bulletin*, a search committee is working to identify a successor to Scannell, with the objective of having the new editor appointed in time to take over the office in the fall of 1994.

I trust it will be apparent that the council is an active body, representing HMS alumni in a time of rapid change in medicine, and working with the administration of the school to support and strengthen the institution with which we all have strong ties.

*Robert J. Glaser '43B is trustee and director for medical science at the Lucille P. Markey Charitable Trust and consulting professor of medicine at Stanford University. He is former dean of two medical schools, Stanford and the University of Colorado.*

## An Alliance is Merged

Whatever health care reform plan is eventually enacted, the harbinger of change has triggered hospital mergers and acquisitions around the country, particularly in Massachusetts, where the medical landscape is already rearranging and trimming down. No other merger, however, has received the attention riveted to the consolidation of two titans of the Harvard-affiliated system—the Massachusetts General Hospital (MGH) and the Brigham and Women's Hospital (BWH)—announced last December.

The merger, which the hospital directors now prefer to call an alliance, was announced as a way to achieve \$100 million to \$240 million in combined savings in annual operating costs and to create a leaner, more integrated system that could better compete for managed care contracts for patients. The directors stated in December that they planned to consolidate administrative services and eventually eliminate duplicated clinical services.

"Today, the Boston market is high cost and has substantially more bed capacity than required under a strict managed care program," said H. Richard Nesson, president of BWH, at the time of the announcement. "The ratio of specialist physicians is also much higher than in tightly managed care plans. The merger will help the combined institutions to remain competitive in this contracting market by enabling them to control costs and simultaneously improve care."

Patients, they emphasized, would not notice any difference. "Both hospitals will retain their individual identities, and operations will continue as usual at both locations," said J. Robert Buchanan, MD, ScD, general director of MGH. Buchanan will be retiring in June and will be succeeded by Samuel O. Thier, MD, who is currently the

# On the Quadrangle

president of Brandeis University and previously served as president of the Institute of Medicine of the National Academy of Sciences.

The merger came as a surprise to faculty and even to the other Harvard hospital directors. The *Boston Globe* broke the story, in fact, before the two hospital boards of trustees had voted on the proposal. Even though the MGH and BWH directors left open the possibility that other Harvard hospitals could join them, there were hard feelings and confusion about what this merger actually meant. The announcement also came at a time when progress was being made in discussions initiated by Daniel C. Tosteson '48, dean of Harvard Medical School, with the leaders of five of the teaching hospitals to search for ways to meet the challenges of the changing health care environment.

But generally the merger was commended as an effort in the right direction. "I applaud the leaders of these two great institutions for their courage and vision in taking this momentous step," stated Tosteson. "At the same time, I am mindful of the other Harvard-affiliated hospitals and the many members of our faculty not currently included in this consolidation. I hope that the action taken by BWH and MGH will be the first of many constructive arrangements."

The dean for some time has foreseen the need for HMS and the affiliated hospitals to be more heads-up about the national movement toward managed care. For the past year and a half, he has been meeting with representatives from five of the affiliates—MGH, BWH, Beth Israel Hospital, Children's Hospital and New England Deaconess Hospital—who committed last year to at least an informal "declaration of interdependence" to work toward greater affiliation. One stimu-

lus for such talks was to promote collegiality and avoid potentially cutthroat competition among the affiliates for contracts with subscriber pools of patients.

These meetings continue to proceed, the dean told alumni councilors at their January meeting, although with less involvement on the part of MGH and the Brigham, who have "their own hard work ahead." Still, the dean said, "There is a great need for Harvard faculty to become informed, involved and motivated to allow HMS to flourish in the new environment." (See the dean's article in this issue for the explicit goals he feels should be met for Harvard medicine to survive with its high-quality patient care, teaching and research intact.)

"A tidal wave is coming, the alarm has been sounded, it's maybe 300 miles away coming at a speed of 50 mph, and we're in a bamboo shed on the beach," said Eugene Braunwald, chairman of the BWH Department of Medicine and one of the participants in the affiliated hospital meetings, speaking at the December 1993 faculty meeting.

Among concerns shared by all HMS affiliates, for example, are reports that there are more hospital beds in Massachusetts per 1,000 population than there are in tightly managed care systems in other states such as California and Minnesota. Health care costs in Massachusetts are higher than in the rest of the country. And by 1999, 60 percent of Massachusetts residents are expected to be enrolled in HMOS, a fact cited by Nesson in one of BWH's employee newsletters.

It was to meet these challenges that BWH and MGH proceeded with their alliance in order, as stated in BWH's employee newsletter, "to create a pre-eminent integrated health care delivery system." Since their agreement, the two largest general hospitals in

Massachusetts have formed a transition committee and tasks forces and are trying to work out the details. They are considering how to do such things as expand their primary care base, compare what each is doing better to lower costs (yet unknown is if they will have to "downsize" staff and beds), develop better systems to gather data for the management of care, and work out a governance structure. As the *Bulletin* went to press, the two hospitals announced the name of their new entity: Partners Healthcare System, Inc.

Much attention, particularly media "eyes" are on them. Though the hospital directors had talked about possibly consolidating competing medical services, the *Boston Globe* reported in February that MGH is still planning to open its own obstetrics unit, implying that this would symbolize competition, not consolidation.

But change in whatever trappings is universally acknowledged to be coming. The only uncertainty is what new arrangements it will find at Harvard and its affiliates.

*Ellen Barlow*



# Tentative Alumni Week Program

Wednesday, June 8 to Sunday, June 12, 1994

Wednesday, June 8	5-6pm	<b>Wine reception of the Coleus Society</b> Co-sponsored by the Coleus Society and the Office of Recruitment and Multicultural Affairs. <i>All are invited.</i>
	6-9pm	<b>Perspectives on Career Development for Women in Medicine</b> Reception and dinner with HMS alumnae and female students. Short talks by students and alumnae. <i>There will be ample time for open discussion.</i>
Thursday, June 9 Symposium of the Class of 1969	8-9am	<b>Registration</b>
	9-4pm	<b>Part One: Major Advances in Science and Technology</b> <b>Part Two: Preparing for Medical Practice in the 21st Century</b> <b>Part Three: Personal Odysseys</b>
	12-2pm	<b>Lunch</b>
Thursday, June 9 Scientific Symposia by HMS Faculty	8-9am	<b>Registration</b>
	9-11am	<b>A Morning in the New Pathway: A Model Tutorial Designed for Alumni</b>
	9-11am	<b>First showing of the NOVA production of "So You Want to be a Doctor?"</b>
	11-12noon and 2-3pm	<b>Meetings with Faculty Experts Series</b> <i>Informal discussion between HMS faculty and alumni.</i>
	2:30-4:30pm	<b>Second showing of the NOVA production of "So You Want to be a Doctor?"</b>
	3-4pm	<b>Tour of the Medical Education Center and Vanderbilt Hall by students</b>
Thursday, June 9 Lunchtime Programs	12:30-2pm	<b>Estate Planning Seminar</b>
	12:30-2pm	<b>Seminar on Managing Your Educational Debt</b>
Friday, June 10 Alumni Day	8-9am	<b>Registration</b>
	9-9:30am	<b>Annual meeting of the Association: Welcoming Remarks</b> Daniel D. Federman '53, Director of Alumni Relations
		<b>Business meeting of the Harvard Medical Alumni Association</b> Robert Glaser '52, President Nancy Rigotti '52, Secretary Doris R. Bennett '49, Chairman of the Fund
		<b>Presentation of the 25th Reunion Gift</b> George Thibault '68, Class Agent
		<b>Presentation of the 50th Reunion Gift</b> Chester D'Autremont '44, Class Agent
	9:30am	<b>Alumni Day Symposium: Ethical Dilemmas of the 1990s</b> Moderator: Daniel D. Federman '53
		<b>The Generalist as Gatekeeper</b>
		<b>The Ethics of Scientific Conduct</b>
		<b>Rationing</b>
		<b>Preserving Excellence</b> <i>Ample time will be devoted to discussion by alumni in attendance.</i>
	12 noon	<b>Harvard Medical School: 1994</b> Daniel C. Tosteson '48
	12:30pm	<b>Reunion Class photographs and lunch on the Quadrangle</b> Reunion Classes will be called for class photographs on the steps of Building A. The schedule will be in chronological order.

# Book Mark

## CRITICAL CONDITION: HUMAN HEALTH AND THE ENVIRONMENT

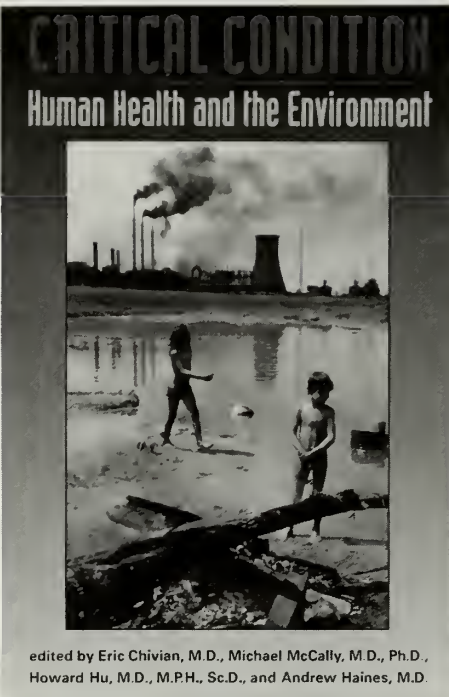
Eric Chivian, *et al.*, editors  
(MIT Press, 1993)

by Daniel A. Goodenough

I have spent my adult life as a white professional male and father, learning to be a person living among people. My share of personal setbacks, tragedies, successes and humiliations has helped me to develop tolerance and to lose some measure of the “isms” that are woven into my transgenerational and personal fabric. I have learned that to accept help is a special quality, not only allowing community into my own life, but also giving tacit permission for my children and students to be free.

Some of these lessons have been incorporated into a new curriculum for medical students, a curriculum that stresses affiliation over competition, self-directed learning in a group context, and problem-solving instead of didactic monologue. Students learn that separation is an inherent part of joining. While I am teaching about the structure and function of the human body and about the many ways that its balance can be upset, I am not, however, involving my students in thinking about how this human body is part of a larger system—the planet on which we live—and that our health now and in the future is critically dependent on this understanding.

One of the unaddressed metaphors that I live with every day is the sense that I am a bacterium in a nutrient medium, growing until I will have either exhausted my food supply or poisoned myself with my own waste. The earth is not a bacterial fermenter, containing only one species. Rather, she has developed a complex system of renewing herself, such that the waste



edited by Eric Chivian, M.D., Michael McCally, M.D., Ph.D.,  
Howard Hu, M.D., M.P.H., Sc.D., and Andrew Haines, M.D.

of one species is the food of another, the whole process driven by energy from the sun. This arrangement passes carbon, nitrogen and oxygen between species, it dissolves and recreates.

But in my metaphor, I am consuming this system. I am eating faster than others can grow. I am destroying the species that create themselves from my waste, and the waste I produce is indigestible and very dangerous and will last on this planet ten thousand times longer than all recorded history. In this place I feel alone; I have not learned how to give and receive help, nor how to be empowered through community.

In the bookstore, I see a remarkable photograph by James Nachtwey that shouts aloud all my repressed fears in this metaphor: two naked children, lit by smoke-soaked sunlight on the edge of a greasy river, appear abandoned by a skyline of high technology. This is the cover of *Critical Condition: Human Health and the Environment*, a remarkable collection of essays that takes a hard, scientific look at the realities of how I am destroying my planet.

Edited by Eric Chivian '86, HMS assistant clinical professor of psychiatry, and others, the essays are written by a blue-ribbon panel of physicians and environmental professionals and

summarize a wealth of research that must be understood and faced by all of us, in particular our medical students and doctors. The writing is clear, understandable to a nonprofessional, and moves fluidly between global physics and the body's cells.

In his excellent introductory chapter, Anthony Cortese identifies an essential element that has impaired the incorporation of teaching about the environment into the medical curriculum: students are trained to “find and fix” problems that already exist, rather than to prevent problems in the first place. This medical model also visualizes the individual as having a disease rather than symptomatic expression of a disease of a larger system (e.g., family, environment). Cortese advocates the inclusion of an ecological model along with the traditional bioengineering model, thus creating health in addition to curing disease.

Each chapter is filled not only with a wealth of thoroughly researched information and excellent bibliographies, but with an effort to bring the reader to the edge of current knowledge. Kenneth Lichtenstein, MD and Ira Helfand, MD provide a thoughtful discussion of the epidemiologist's problem—the evaluation of data from complex systems with multiple variables—and allow the reader to appreciate not only the correlative nature of some of the epidemiological data but also the difficulty of designing a solid experiment.

We are reminded by Elizabeth Bowen, MD and Howard Hu, MD, assistant professor of environmental health at the Harvard School of Public Health, that environmental destruction in a racist society such as ours is, by definition, racist: contamination and toxic dumping are most prevalent next to poor communities. I learn that teaching young doctors about the



preservation of my planet must include teaching about the system of advantages that I have because of my race and social class.

The reader will find that the narrow discussions one hears in the media of the environmental impacts of ozone loss, global warming, war and pesticide use are but the tip of the iceberg. For example, Alexander Leaf, MD, emeritus head of the HMS Department of Preventive Medicine, stresses perils beyond skin cancer from increased exposure to UV-B irradiation, focusing not only on the human problems of cataract, photokeratitis (snow blindness), depression of cellular immunity and respiratory diseases, but also on damage to other organisms fundamental to life on earth, such as phytoplankton, which are at the very origins of our food chain. Andrew Haines, MD expands on the effects of global warming due to greenhouse gases from the potential flooding of vacation homes on Cape Cod to the release of methane from the permafrost and the already demonstrated increases in communicable diseases, such as cholera.

The book ends with the most powerful chapter, reminding me that I am not alone. Chivian reviews the vast literature of generations of biologists that describe the intricate and regenerating interrelationships of all life on earth. The loss of this diversity due to our destruction of natural habitats will not only deny us future discoveries for therapeutic reagents, but will also result in a disequilibrium among the remaining species, with potential increases in a variety of infectious diseases.

My thinking about the environment is usually so painful and terrifying that I am rapidly desensitized, and I cradle myself in a wall of denial. But *Critical Condition* is not a "doom and

gloom" work, guaranteed to leave you in deep despair. I am both relieved and challenged by *Critical Condition*. I am relieved to know that I am not alone in my concern about my planet; it is clear that there is a community of highly motivated, informed and very talented professionals who are providing leadership in finding the solutions to our global problems. I am challenged as a medical educator to face my responsibility to engage students in the search for solutions, and I am stimulated to write teaching cases that will necessitate thinking systematically about the impact of the environment on human health, cases that will excite and empower, not depress and terrify.

Whether this will create a generation of new doctors is impossible to foresee. I believe that a central challenge of our time is to experiment and see if our local efforts really impact on global problems. Without proof, and relying on what may be naive faith, I nonetheless take short, water-conserving showers, trusting that out there are armies of belief-networked soul siblings who join me in the reverence and preservation of the ocean. *Critical Condition* has not only provided me a rich source of information and ideas to bring to my own learning and teaching, it has also introduced me to a community of professional thinkers and leaders with whom I can join in dissolving my metaphor.

*Daniel Goodenough, PhD is Takeda Professor of Cell Biology and master of the Oliver Wendell Holmes Society, one of the first academic societies.*

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# The Future of Harvard Medicine

by Daniel C. Tosteson

PUBLIC DEBATE OVER HEALTH CARE reform, coupled with the growth in managed care both locally and nationally, has generated a much needed re-examination of whether the Harvard Faculty of Medicine is properly organized to pursue its activities in patient care, education and research in a rapidly changing health care delivery system. Preliminary assessment of the likely impact of market reform alone indicates that it is not.

In the context of these changes and the challenges for improving the health of the nation, Harvard medicine faces a time of unprecedented risks and opportunities as it attempts to sustain, deepen and broaden its historic mission to improve the quality of health care through advancements in clinical practice, research and education. I would like to share with you the reasons why action to frame a vision and chart a new course for Harvard medicine is necessary.

Harvard medicine carried out by the faculty under the auspices of the university and the affiliated institutions is now, as assessed by many peers, arguably the best in the nation, and possibly the world. Over the past 30 years, the Harvard-affiliated hospitals have grown and flourished, not only as providers of excellent health care, but also as outstanding centers for education and research. Moreover, they have reached out to serve all socioeconomic groups in greater Boston.

Why change a winning combina-

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*Factors inside and outside medicine are changing in directions that are making current arrangements dangerously obsolete.*

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tion? The short answer is that factors inside and outside medicine are changing in directions that are making current arrangements dangerously obsolete. The closely woven fabric of patient care, education and research, which for decades has sustained academic medicine, is becoming unraveled. Purchasers of these services have become progressively more resistant to the super-inflationary increase in costs. They are searching anxiously for ways to contain costs without sacrificing quality. They insist on clear accounting of the costs and measures of the quality, and have increasingly rejected cross-subsidies among patient care, education and research.

The demand for cost containment and quality assurance, as articulated for some time by the purchasers of health care and now in legislation before the Congress, presents critical

decisions for the future of Harvard medicine. We must find new organizational arrangements if the Faculty of Medicine at Harvard is to bring the power of modern molecular medicine to the benefit of patients in Boston and throughout the world. Some of the reasons for this conclusion are:

- The rise of managed care threatens to reduce drastically the number of patients seeking care from faculty physicians in Harvard-affiliated hospitals. The continued capacity of doctors in the region to refer patients to faculty specialists will be seriously constrained by terms of contracts that specify the physicians to whom referrals can be made.

- Capitated prepayment for comprehensive health services required by some payers and insurers will force faculty physicians and the affiliated hospitals to enter into contracts at prices that will be insufficient to fully defray current costs. Economic and professional survival will demand that costs be reduced.

- The possibility that members of the faculty may become members of different competing health care networks threatens to distort the current, mainly healthy, rivalry between faculty groups at different hospitals for students and research laurels by introducing destructive, inefficient and fragmenting competition for patients.



• In order to maximize the number of subscribers for comprehensive health care services, it will be necessary to increase substantially the number of primary care physicians in or associated with the faculty. Creating the most effective organization, facilities and relations between these new groups of primary care doctors and existing clinical faculty based in teaching hospitals will be necessary to assure excellence of both patient care and education of medical students and residents, especially in primary care.

• The excellence of Harvard and its related institutions can no longer be defended by reputation. Contracts for patient care will be made with those agencies we can satisfy with respect to both price and quality of care. While there are important studies of quality under way at Harvard Medical School, we are not currently configured to develop large-scale outcomes documentation in ways meaningful to those who pay for care. This can best be accomplished in a coordinated fashion, and must be followed by coordinated efforts to improve performance where indicated.

• Federally mandated health care reform may contain provisions that will impair the capacity of the hospital-based clinical departments to recruit the most outstanding graduates of medical schools throughout the nation to positions in Harvard-affiliated resident

training programs. For example, financial support for residents from federal programs may be tied to increasing the number of positions in primary care and reducing the number of positions in several specialties.

• Increasing constraints on public and private, including corporate, sources of revenue, together with the continued super-inflationary increases in direct and indirect costs, make the financing of research progressively more difficult. The relative isolation of faculty scientists based in the affiliated hospitals from one another and from their colleagues in the Quadrangle is a barrier to the development of interdisciplinary programs that will be positioned optimally to receive funding, as well as an impediment to the cost-effective administration of research.

• Faculty physicians and other staff of the affiliated hospitals are justifiably proud of the health care services they provide to all of their patients, and particularly to those who are uninsured or otherwise unable to pay. Their capacity to give free care may be seriously compromised in a managed care environment that prohibits cross-subsidies. The commitment of faculty physicians and the hospitals to serve responsibly and equitably the communities of greater Boston will be severely tried during the coming years.

For these and other reasons, the Harvard medical community is at a

crossroads. We must act decisively, and soon, to set a new course for the faculty and for the institutions where they work. Delay will result in progressive separation and conflict, and will threaten the quality of our work.

Though we sail in uncharted waters, some of the goals of the voyage are clear. In principle, we seek a set of arrangements that will foster patient care, education and research. These three categories should continue to be integrally interwoven, despite the inevitable and rising pressure for separate financing and accounting. In order to ensure effective coordination of patient care, education and research, both within and among participating institutions, it is essential to design and implement promptly an integrated plan for the faculty as a whole.

*With regard to patient care, the new arrangements should, at a minimum, meet the following goals.* They should provide Harvard faculty physicians and associated health professionals with the financial, physical and human resources to offer and continue to strengthen the highest quality health care at an affordable price to all socioeconomic groups living in greater Boston and beyond.

We should create a physicians organization (PO) that will enable Harvard faculty physicians to practice efficiently and productively in a capitated, managed care environment. The PO should incorporate the following:





multi-specialty care units (including primary care) at each of the affiliated hospitals; recruitment of the necessary additional primary care doctors; vertical integration of primary care physicians and specialists at each site; and cost-effective coordination of subspecialties within and among the several affiliated hospitals.

These arrangements for managed care should be thoughtfully designed in relation to the objectives of existing practice plans. Harvard faculty physicians should devise and implement a plan for effective coordination of all their practices, including the new multi-specialty groups involved in managed care contracts. This plan should include provision for coordination of the clinical care provided by faculty physicians within and between their respective hospitals.

We should utilize a not-for-profit managed care insurance organization as a vehicle for negotiating contracts for Harvard faculty physicians at the affiliated hospitals with employers and other payers to provide comprehensive health services to groups of subscribers. Ultimately, this organization could have authority to negotiate all managed care contracts involving Harvard faculty physicians.

The new arrangements should maximize the size of the population served in order to allow for development of excellent clinical programs across the entire range of specialties; reduce per subscriber utilization by

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eliminating less than necessary diagnostic and therapeutic procedures and thus, per subscriber cost; achieve economies of scale in administration and ancillary services; permit large-scale clinical outcomes research; and provide a context for outstanding programs of undergraduate and graduate medical education.

*Goals for improving the quality and efficiency of education carried out in the Harvard-affiliated institutions include:* assuring that the high quality of the resident physician training programs in the Harvard-affiliated hospitals is maintained and increased; that there is greater coordination and cooperation among residency training programs in the several hospitals; integration of medical education at the pre-doctoral and post-doctoral (including resident training) levels; and exploration of new directions for medical education at all levels.

Changes in medicine require

reform of medical education at the levels of residency training and continuing education of practicing physicians, just as they have stimulated the introduction of the New Pathway process in pre-doctoral medical education at Harvard. It is now clear that the development of such a continuum of education is the only mechanism for ensuring quality of care over time, particularly in light of the pressures created by managed care.

There are several important themes for improving the continuum of medical education. There should be greater use of modern information management technology (computers and related devices) in accessing and analyzing clinical data and more emphasis on disease prevention and health promotion. We should strengthen and broaden education in primary care both inside and particularly outside the confines of the hospital, and develop programs of continuing education that are fully integrated into the practices of the "physician-students," thus promoting improvement in quality of care. We need to reach out to institutions and governments outside the United States to provide assistance in the development of programs of medical education.

*Goals regarding research are also essential for the future of Harvard medicine.* A reaffirmation that basic research directed toward a deeper understanding of the human situation



is a primary mission of the Faculty of Medicine is necessary, since progress in the prevention, diagnosis and treatment of disease depends on discoveries in basic research. Applied research seeking the solution of clinical problems is an equally important aim. This broad category of work is illustrated by ongoing projects of members of the faculty: for example, attempts to delineate the molecular or cellular origins of particular disorders, such as Duchenne's muscular dystrophy, the refinement of magnetic resonance imaging techniques, and other breakthroughs, including many not yet imagined. Clinical trials of new drugs and devices, including clinical outcomes research, deserve particular emphasis.

The distinctions between basic and applied research are becoming blurred. Understanding pathogenesis usually depends on a deeper grasp of normal function. New organizational arrangements for Harvard medicine should encourage coordination and cooperation among faculty scientists involved in basic and applied clinical research at the affiliated hospitals and the Quadrangle. New arrangements should be used to catalyze interactions between faculty scientists at the different sites. Design of the Harvard Institutes of Medicine should be viewed as a vehicle for embarking on this goal.

In sum, the forces of market reform and institutional positioning in anti-

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pation of health care reform legislation have set in motion a reorganization of the health care delivery system that requires a reweaving of the activities and relationships of the Harvard Faculty of Medicine. Ultimately, this should include creation of a physicians organization across the faculty that would contract for the care of groups of patients, utilizing the strengths of the faculty and the Harvard-affiliated institutions across the entire system. Such a PO would develop a vertically (from primary through quaternary care) and horizontally (across all the hospitals where the faculty work in a given specialty, for example, cardiology) integrated network of physicians, capable of delivering the highest quality comprehensive health services at an affordable cost to the largest feasible

population of subscribers.

There are many advantages for the Faculty of Medicine to work together to develop an organization that will move us toward these goals.

First, working together to create a single PO with greater coordination across the affiliated institutions offers the best chance of ensuring a subscriber base large enough to support a critical mass of faculty physicians in all subspecialties. Our ability to sustain "best in the world" programs in patient care, research and education depends on serving patients with a full range of clinical problems. This would enable us to continue to attract and retain an outstanding clinical faculty and, consequently, excellent students at all levels of development. In turn, the ability to sustain excellence in all subspecialties would provide the subscriber community with a comprehensive range of medical services and the ingredients for a vertically integrated delivery system.

A second benefit of this course is that it would enable our faculty to compete effectively and fairly in the various markets for health care services in which they are, or are at risk of being, at a significant competitive disadvantage. Without an efficient and innovative organization, the Faculty of Medicine and the Harvard-affiliated hospitals are at risk of being diminished as a consequence of aggressive competition from existing competitors and new entrants in the dynamic and





volatile health care field in Massachusetts and elsewhere.

Third, and perhaps the single most compelling advantage of a closer affiliation across the faculty and the institutions where they work, is that it creates the greatest opportunity for taking charge of our destiny in patient care, research and education. No single institution has the resources required to respond effectively to managed care and other external pressures, including reduced emphasis on the acute care hospital as the center of the health care delivery system, while at the same time maintaining excellence across the full range of services.

Together we would have the best chance of negotiating the arrangements with public and private payers that would enable us to sustain our activities and support our academic programs. Together we could devise administrative arrangements that will enable faculty physicians to devote relatively less of their energies to the bureaucratic administration of the health care system and relatively more of their energies to caring for patients, research and education.

Most important, in addition to these several advantages, a single PO and closer affiliation among the affiliated institutions would result in better service to the people of greater Boston and elsewhere who seek health care from faculty physicians at the affiliated hospitals. Service would be better because quality of care would be sus-

tained or improved while the cost would be reduced. Quality would be higher because vertical and horizontal integration of care and education coupled with an organized continuing assessment of outcomes would improve the quality of clinical decisions. Costs (per subscriber) would drop because of more efficient management and information systems, economies of scale in administration and in ancillary and clinical services, and because of decreased utilization.

For Harvard medicine to reach the goals proposed in this paper will require extensive analysis, discussion, negotiation and dedicated hard work. The details of the ultimate configuration cannot be clearly foreseen; they will emerge gradually through a process of evolution.

It is essential that this evolution begin now. If we delay, inefficient fragmentation will proceed, and we will have failed in our stewardship of this great faculty and the institutions with which it is allied. If we act, the principal beneficiaries will be the society that we and our students serve.

*Daniel C. Tosteson '48, Caroline Shield Walker Professor of Cell Biology, is dean of Harvard Medical School.*

# A Forum on Reform

*This is an edited, excerpted account of an alumni "town meeting" held in Philadelphia on December 7, 1993. IT IS THE FIRST of a series to be held in similar forums around the country to stimulate discussion among HMS alumni on health care reform. Arnold M. Epstein, internist in general medicine at Brigham and Women's Hospital and associate professor of health policy at Harvard Medical School and Harvard School of Public Health, has been on leave the past year and a half working in the White House as a coauthor of the American Health Security Act of 1993. Joseph S. Gonnella '59 is dean of Jefferson Medical College in Philadelphia. The forum was moderated by Daniel D. Federman '53, HMS dean for medical education.*







DANIEL D. FEDERMAN: This is the first of a series of “town meetings” that we are having around the country, in areas where there are large concentrations of HMS and HMS-hospital alumni, to talk about health care reform.

We’re going to do this New Pathway—style with some joint problem-solving. We’re not here to give you the answers. We don’t know the answers; even Arnie Epstein, who’s been central to finding the answers, doesn’t know them all.

The “faculty” are going to speak briefly and you, the “students” this evening, are going to be an important part of the discussion. We want your opinions. As we zealously court the students’ opinions, we want yours, too.

We’re going to take from the discussion an agenda—that is, a set of ideas and suggestions—and bring them back to the dean and others at HMS, and then do the same thing in several other cities. The discussion won’t be exactly the same in the other cities, any more than it is in any two tutorial rooms when the students are working on problem-solving.

Our two speakers for tonight were chosen because one is very much involved in producing the change, and the other is going to be very involved in responding to their impact.

ARNOLD M. EPSTEIN: Let me first digress and think back to about a month ago when President Clinton released the Health Security Act of 1993 to Congress. In releasing that act he set out six principles: security, choice, quality, savings, simplicity and responsibility. It was his wish that the act tether debate around a proposal which would at least start to define the solution for health care. And it’s in that context that I’m particularly pleased to be here tonight because this sort of discussion has to take place all across the country in rooms like this. Ultimately, in the halls of Congress, something will be fashioned that will give us health reform.

Most of the discussion that people



photo by Bresner Studios

Arnold M. Epstein

have read thus far in the papers has been on budget and finance and governance and things like that. But I want to center on some issues that I think will be even more important, because I think that 20 or 30 years from now, when people look back, they're not going to ask whether the tobacco tax was 50 cents or 75 cents. And they're not even going to ask whether the alliance had companies in there with 5,000 or 1,000 or even 100 employees. They're all going to ask how they were treated when they went to see the doctor: "Was I cared for courteously? Did I get high quality care? Did I get it easily?"

I want to talk a little bit about what will go on day-to-day for patients, and also for doctors, nurses and other providers of care, because that's going to be crucial to whether or not we succeed.

If you polled doctors around the country, about 75 percent don't merely say the system is broken, they say it should be done away with. If you ask them what's wrong, almost always number one on their list is what I call the "hassle factor," or interference in medicine.

Doctors across the country tell the same story. They now have increasing numbers of managed care organizations—which use utilization review, pre-admission review, concurrent review and high-cost case management, all techniques that have become ubiquitous in medicine—which get in their way of taking care of patients.

You speak to practitioners and they all describe the same set of circumstances. I know what happens to me. I practice in Boston as part of the general medical group that's attached to the Brigham called Brigham Medical Associates. A prepaid group comes down to us and says, "How would you like to join?" And we say, "What are the rates going to be like?" And they say, "They're not very good." They're honest. We say, "What are the utilization management techniques like?" And they say, "We're going to drive

you crazy." And then we say, "Why should we join?" And they're very clear. They say, "We're signing up employers all around the periphery of the city and, if you don't join, pretty soon you won't have any patient business." And so, groups like ours are constantly joining HMOs and PPO networks.

Now what about the Health Security Act? Everyone knows that the Clinton administration proposal is designed to drive us into more highly integrated, more efficient care. Isn't that more of the same?

Well, I'm here to tell you that it's going to be very different. While there is a part of this act that is designed to produce more highly integrated care and to take us into organizations that look more like HMOs and IPAs and networks, the types of organizations that will assume those labels in the future will be a vastly different species than what exists today. The proposal is designed not only to change the numbers, but what makes up those numbers. And it depends on two fundamental changes: the first has to do with sheer economics, market forces, and the second with statute.

If the Health Security Act is adopted, my patients will go to the alliance on the first day to sign up. And they'll be told they can sign up for any plan they want because all plans are in the alliance. Then they're going to come to me and ask what plans I'm in, and I'll tell them the two or three that I'm in. They will be able to sign up for one of those plans. And they will never again have to change plans because their employer's changed or because they've gotten divorced or because of some other change in life circumstance.

Now every month or two I get a patient who comes in and says, "Geez, Dr. Epstein. I'm terribly worried. My employer no longer carries Bay State, and we can no longer use you." So it's going to be doctors like me and, from the vibes in this room, doctors like you, who will be in much more control



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*"If you polled doctors around the country, about 75 percent don't merely say the system is broken, they say it should be done away with."*

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Arnold M. Epstein

of market share.

There are also a set of statutory changes as part of the legislation to complement and to facilitate what that will mean in legal terms. The McCarran-Ferguson Act, which now provides an exemption for insurance companies and allows them to collude to set rates, will be changed. And there has been clarification of existing regulation by the Department of Justice to guarantee that doctors and other providers of care can come together to negotiate as a group in what's called "safety zones" and be free of antitrust legislation, so long as they take on some risk and have less than 20 percent of the market. And if they're more than 20 percent of the market, that may be OK, also.

There will be loan programs for organizations put together by providers of care, such as doctors and hospitals, to develop new types of community-centered, professionally oriented HMOs—a very different species.

In the past decade or two we have seen hospitals, and they are the ones with the capital, trying to set up deals with PPOs and other employers to funnel in patients. We'll be more likely to see hospitals going out into the community and working with networks of primary care practitioners and other doctors to come together as a professional group that will take on risk and management. It's happening at the

University of Pennsylvania right now.

How will that work? Not everybody in their office is going to spend time being a manager, nor should they. But they will have representatives to honor their interest. We're likely to see a situation in which doctors and other providers will either negotiate on a much more equal basis with insurance companies, or in which they will literally run the plan and the insurance company will act as a fiscal intermediary. There is an invitation here to really change the organization of care to allow providers to decide the rules.

Let me close by mentioning the academic medical center and what is going to happen to it and its workforce. Mostly the government really hasn't had much to say about our workforce. There are a few federal programs designated to produce family doctors, generalists, pediatricians or internists, but they're really small in terms of financial support. The incentive has been to train as many as you can and never mind the specialty mix, and there is concern that this has not served us as well as it might.

Our current specialty mix, depending on whom you count as a specialist versus a generalist, is roughly 70:30. If you look around at other developed countries around the world, it's much closer to 50:50. There is a sense that one needs to jump-start the system to try to get us more primary care practitioners.

Under the Health Security Act, there will be a substantial change in how we decide workforce and how we decide funding. First there will be a national commission put together—made up of educators, physicians, nurses and people from the general public to decide, at least as a first cut, some goals for mix of specialty. There will then be funds developed for educational institutions that do that training, which will come from not only the federal government but also from private payers, and will start out at about the current level and go to \$9.5 billion



photo by Bresner Studios

Joseph S. Gonnella

by the end of the five-year transition period. The idea here is that if you want to train people who are involved in more primary care, it should be done more in the community.

JOSEPH S. GONNELLA: You know, it is difficult to argue against the six goals that the Clinton plan is formulating. We should be for universal coverage. No question. We should look for a simple system. We should look for responsibilities. We should look for choices. And of course, it would be nice to save money. In my opinion, the intentions are good. I don't think we'll get there without at least spending more money.

Let me focus on two topics that I believe are at least our responsibilities, for which we should take part of the blame: specialization and outcome studies. But given the fact that it's more likely that you will remember my stories than what I will say, let me begin with two stories that summarize my dilemma.

One is about the man who survived the Johnstown flood. He finally dies, goes to heaven and convinces St. Peter to bring all the angels together so that he can tell them about the Johnstown flood. As soon as he begins speaking, one of the angels in the front row gets up and leaves, which upsets the speaker very much. He asks St. Peter, "Who was that angel?" And the answer is, "Noah!" So you see, there are too many experts in this room for me to deal with.

The other story is just as important to remember, and that is the time that Destiny goes to a South Pacific island and summons three individuals: an agnostic, a pagan and a rabbi. And to each she poses the same question, "What would you do if I told you that tomorrow this island is going to be inundated by a tidal wave?"

The agnostic said he would go home, eat, drink and make love all night. The pagan said he would go back to the temple and sacrifice animals to the gods and pray. The rabbi,

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*"For the past generation we have been unwilling to produce the generalists."*

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Joseph S. Gonnella

after a thoughtful pause, said he would go back to the village, gather up a group of wise people, and begin a study on how to live under water.

We really are going to live under water because, whether or not the Clinton plan is adopted, we are going to face four or five major issues: over-capacity, an unbalanced manpower pool, high costs and insurance companies that are no longer insurance companies but money managers. Insurance companies should take risks, but instead they take a dollar from those who want to buy service, keep 25 cents of it, and tell us to take care of the patients. Because of over-capacity and panic, all of us are rushing for those patients.

I believe that we made major mistakes in the 1950s and 1960s, when we did two experiments simultaneously. One was to make the PG1, or the rotating internship, into a straight program. The other was to make the senior year largely elective, which meant that students began to specialize at the end of the third year.

Now Tom Duane, who is a dear friend and the chairman of ophthalmology at Jefferson, loves to tell the story about the student who applies to medical school. When asked why he wants to become a physician, he replies that the week before he had been accepted into a residence program in ophthalmology and one of the requirements was a medical degree.

Arnie is telling us that we need more professors to educate us in primary medicine, but where are we going to get these professors? For the

past generation we have been unwilling to produce the generalists. So, even though I am very proud that my school, Jefferson, began a program in 1974, I'm not sure that there is enough talent to staff the 126 medical schools in this country. The other problem—even more serious—is that we need patients. There was a reason why medical schools developed social contracts with city hospitals. The poor were taken care of there, and they gave us the ability to teach students about diseases and about people. Right now, if the market forces accelerate what is already happening, and some medical schools no longer have an adequate patient population, what is going to happen to the students? Jefferson is the only medical school in this city that requires ophthalmology because we're the only school in town that has Will's Eye Institute. Suppose another medical school corners the market in cardiovascular disease or in orthopedic surgery. What are the implications for the medical students?

Not only do we need a different case mix for students, but we need for them to have a continuous relationship with patients. I no longer believe that the modules of six or twelve weeks are acceptable if we go toward an ambulatory route. We need to develop new strategies, because you can have a very bright medical student but not a very wise one.

The second point I'll make regards health service research, or outcome studies. Suppose that my 83-year-old mother were to receive a report card from her doctor or from the alliance, that Doctor X scores 4 out of 5 in the area of satisfaction, with 5 being the best. In being able to provide information to the patients and taking the time to be sure that the information was understood, he gets 5 out of 5. But suppose in the area of diagnostic abilities he was 2 out of 5? Is this good or bad? Which of these clues is more important? It is up to us right now, when we look at the evaluation of mortality and morbidity, costs and satisfaction, to provide leadership.



QUESTIONS FROM THE AUDIENCE:

*I'm an ophthalmologist, and I kind of remember how to treat chest pain. But the question "Would I treat chest pain?" gets at the issues that will impede health care reform from working. One of them is malpractice and malpractice reform. It's not that I wouldn't want to treat someone with chest pain, but I might be afraid to. How is the Clinton administration dealing with the issue of malpractice and this defense-driven medicine that drives up health care costs?*

AME: I'd like to think that it's more than malpractice that keeps you from treating chest pain, but I think this is an entree to address a very important issue. The malpractice system in this country is not working well. A study done at Harvard Medical School, Harvard Law School and the Harvard School of Public Health examined care for 30,000 hospitalized patients in New York and what they found was stunning. If you look at people who were injured through provider negligence, where there was an adverse event and the provider "screwed up," about 2 to 3 percent of the patients actually brought suit or filed a claim; 97 percent didn't.

The large majority of those who did make claims, as near as expert panels who reviewed the cases could tell, were really unsubstantiated, and some of them were frivolous. If you look at the amount of time that elapsed between the time when people were injured and when they actually received compensation, it averages nationally about three years, and in New York State for serious cases it's about ten years. And that's not only an important epidemiological fact; it is very important because there are patients who need money during that crucial time for rehabilitation. If you ask about the efficiency of the system, about 45 cents of the malpractice dollar—the amount of money that doctors pay for malpractice premiums—actually gets to plaintiffs. The majority of funds ends up in the attorneys'

offices, the insurance company profits or administration. The system isn't working very well.

But we have had a fundamental difficulty nationally in solving it. The National Health Security Act is making the first national attempt to try to deal with this problem, and it involves a number of different approaches simultaneously applied. The first, and to my way of thinking one of the most important, is called "alternative dispute resolution." What that means is that health plans across the nation will have to adopt either mediation or voluntary arbitration so that before a person can win the suit, they have to go through that nonofficial body. If people go on further, they will have to get a certificate of merit from a practicing physician saying that care was not up to par before they can bring suit.

There will be limits on attorneys' fees, which will be set nationally but can be made more stringent statewide. There will be prohibition on plaintiffs collecting twice, both from the defendant and from their health or disability insurance, and there will be periodic payments allowed, as opposed to lump sums. Finally, there will be demonstration projects for enterprise liability and a new set of programs that will free a doctor from the fear of litigation if he or she practiced in accord with guidelines.

*I'm a pediatric urological surgeon at Children's Hospital in Philadelphia and I have two concerns about expectations of the American populace. I'm a specialist, have three board certifications in surgery, and people come and see me with bedwetting problems. I'm happy to see them, but there's no question that that's not a cost-effective way to use my time.*

*On the other side of the coin, the American populace expects us to be able to do things for them that don't actually contribute to their long-term outcome, and we throw away immense sums of money doing that. Today people basically say, "Well, Doc, if you don't want to put Aunt Minnie on dialysis, I'll find somebody else*

*who will." And it doesn't make any difference that she has had three strokes and, in point of fact, the dialysis really won't improve her outcome. How do we tell people that they shouldn't use our resources inappropriately, either in the very young or the very old?*

JSG: I do think that we are to blame for this. No question that the American public is unwilling to live with uncertainty, but we have fostered this. The profession certainly has emphasized the need to go to the very best, meaning someone who is board-certified in pediatric urology rather than a general practitioner or intern.

My concern is a tendency to say that you don't need to go to any doctors at all. Go to a nurse. So where is that fine balance? I think we have to take blame for not producing, and for not telling the medical student who wants to become a pediatric urologist, "Don't do it. Go into general medicine. Go into pediatrics." So I think that the government is correct in telling us to address this issue of balance.

*The government has run the Veterans Administration since its birth. It is hardly a model of quality and it is hardly a model of simplicity. How are we to believe that the government will run anything else better than it has run the V.A., especially when it has taken the Veterans Administration out of the Health Security Act and will continue to run it for political purposes in the same manner in which it has been run?*

AME: We really considered the question of whether we should develop a V.A. system for the country. We called that the British National Health System, and we explicitly decided not to do it. Rather, what we thought we should do is set up the rules so that the system is constructed with a rational set of incentives and leave it fundamentally in the hands of the private sector working together with providers to develop a system. And so the system

we have put forth is a system with alliances, with standardized benefit packages, a system where patients will be able to compare apples with apples, where they will have information on price and quality and then make choices.

But the production, organization and delivery of that care will not be decided by the federal government. That will be decided by providers, like people in this room, working together with other sorts of managers all across the country.

In point of fact, the V.A. system as we know it is going to change. That is to say, veterans who have disabilities or low income will still be guaranteed comprehensive care, but the V.A. hospital system, after a transition period, will have to compete with other health care providers and if veterans wish, they can get their care elsewhere in the system and still have nationally-based comprehensive care.

*I have a slight affliction of cerebral palsy and having spent time in hospitals—not an easy thing to do—my first question is, what can patients expect in terms of their stays in hospitals? In speaking with people, one of their concerns is that they will not be able to choose their own coverage, be able to have private rooms, or choose their own doctors. I'd like to know how the Clinton plan addresses that problem.*

*DDF: I'd like to make your question even harder than the way you've framed it. That is, how is choice going to be preserved, because it seems to me that you could create savings by limiting choice.*

AME: There really is another part to this. How do you get choice? How do you guarantee that it's high quality choice? And is the price going to drive us crazy?

The first part I've really already alluded to. The choice argument is really the most specious of all the arguments that detracts from this plan. We have a situation right now in which 90 percent of the American public get their insurance through

their employer. The majority of employers do not offer choice. We have a situation in which every time an American changes jobs or loses a job they are at risk of having to change their insurance coverage. That's all going to change.

The second argument is how do we know about quality, and how do we know about the four hospital beds in the room versus one or two? The truth is that I'm willing to guess that as educated and knowledgeable as are people in this room about their health care, probably few of you know whether you are entitled to a room with two beds or one bed. I certainly don't know for my plan. It's because we haven't been given that sort of information systematically, but we will be in the sorts of performance reports that Joe mentioned.

I'm not trying to tell you that it's going to be perfect information, but it's going to be a lot better than what we have today. I make an analogy to *Consumer Reports*. Have you seen how they rate different things with all the red and black dots? They do one other thing that I find very helpful. In that array of dots, which is analogous to your different measures of satisfaction, there's a lot of confusion. But then they draw a line. The top two or three, or however it breaks, are probably better. You probably wouldn't choose the guys at the bottom who are worse in every category. But in between I can't tell you whether you value more the single room or a compassionate provider or the latest in this or the latest in that. You've got to make that choice.

*What provisions does the Clinton plan have for long-term care?*

AME: There will be long-term care coverage as part of this plan for the first time, and it will involve care that will be provided in the home and in the community. It will start out small early on, due to financial constraints, and will be expanded by 2001.

*One of the problems I see is that we are really having a cultural conflict between the provider and the manager, who have very different mentalities. And I think physicians as providers—given their training, especially the kind of training that we got at Harvard—are committed to providing care irrespective of whether or not people have resources to pay for that care. This puts them in a very tenuous situation when they're dealing with managers who deal entirely in a business mentality.*

*I have a Harvard DMD plus a Harvard MBA. The DMD part, trained in Boston, says that this health plan sounds great; in theory, it is terrific. The MBA says, where's the bottom line? How can we afford this? I can't make the numbers add up, and I was pretty good in accounting.*

AME: I'll try to briefly address two issues. First, several people mentioned this problem of physicians versus managers. I do share your feeling that the perspectives in those groups are different, and it is for this reason very clearly that the Health Security Act is designed from the roots up to bring doctors, nurses and other health care providers into the management of care. And it's only by empowering health care providers, not only in their offices, but as the rules are made, that we're going to see those rules put together in a more reasonable way.

I just want to remind you that some rules about utilization management make sense and actually help us provide more efficient care. I know that if I admitted a patient to the hospital who has congestive heart failure and pneumonia, it's not a problem for me if on the first day I get a letter from the hospital saying, "By the way, you've admitted Mrs. Jones. She has these conditions. Our average length of stay is seven days. And by the way, these three antibiotics have been found in controlled trials to be the most effective and, parenthetically, this third one, which is just as good as everyone else's, is the cheapest. And one other thing, Dr. Epstein, the way



our social service works, if you want to get her out on Day X, you have to start three days before."

I have no problem with that. I only have trouble if on Day 7, I see that Mrs. Jones is still wheezing or she still has some fluid retention or I want to keep her in, but that I not only have to have somebody come by, I also have to call an 800 number and fill out a form and so forth.

Let me close by saying a word about something that I've heard a lot of skepticism about and that's, "What about this rabbit in the hat? Tell me about how we're going to be able to do this for the same amount of money?" Well, there is no rabbit in the hat, and we're not going to do it for the same amount of money. We are going to do it by slowing the rate of increase in costs.

It has to do with three fundamental ideas. The first is that there is a lot of waste in the system. The second is that there is tremendous divergence in what we are doing in the system. And the third is that no one is talking about cutting costs.

Approximately 25 percent of the hospital dollar goes for sheer administrative expense. We know that about 50 percent of the dollars that you collect go for administration in the office, and we know that there are multiple forms and multiple procedures that take up a lot of extra time, and that the standardization and simplification of forms, going to electronic communication and other things like that, would help us pick up some easy and quick savings.

We also know that there is dramatic divergence in what is done in this country. Where I practice in Boston, if you look at the rate of expenditure per capita per patient and compare it to Yale in New Haven, we spend about twice as much. It's not 10 percent more, or 20 or 30 percent. It's 100 percent more. And the patients in New Haven seem to do just fine. This says that there's an opportunity here for us to change what we're doing and

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*"There's no way in the world that doctors are going to be allowed to settle all the issues any more."*

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Daniel D. Federman


still get good outcomes.

No one is saying that we're going to spend less. In terms of Medicare we now have a rate of increase that is roughly three times the rate of inflation. We're talking about cutting it to twice the rate of inflation. So I'm not saying that there's a rabbit in the hat here. Just the opposite. We're talking about introducing the same sorts of rationality that we have in all other areas of society and just slowing the rate of cost increase.

DDF: Let me take a few moments to just talk about a few of the questions that have been addressed to Harvard. First of all, the provider-manager dialectic is very much in our mind. I agree that the people who make decisions about health care benefits need to have a medical feel to what they are doing. One of our goals at the school now is to train what I'm calling medical managers, that is, people who have come through a medical tradition within which ethics and a concern about cost have been annealed to the clinical commitment that has always characterized our education.

There's no way in the world that doctors are going to be allowed to settle all the issues any more. The money involved is just too much. So if managers are involved, we think that some of them should have a medical background. We have a number of students in the Kennedy School of Government and at the Harvard School of Public Health who have this in mind.

Second, someone asked if Harvard speaks for or predominantly from the left. As an academic environment, Harvard accommodates all ranges of political opinion. When you're loyal to a place and someone says something discordant with what you feel, that opinion may look like everything the place is saying. But you'll see a very broad range of opinion among our graduates, all the way from Jim Todd '57, executive vice president of the AMA, to David Kessler '79, the head of the Food and Drug Administration, to Ken Shine '61, president of the Institute of Medicine, to Bernie Healy '70, recently head of the NIH. There isn't any one political view, in my mind, that characterizes Harvard.

This is why we are holding these meetings. These evenings are input for us. It would be one thing for the dean to speak up and give his opinion, but it would be far more powerful if, from a group of evenings like this, the school could get a sense of what its alumni as a group are thinking—people based in other cities at other institutions, based in academia or in practice, in medicine and dentistry. These meetings are an effort to craft a response that will come more broadly to reflect the alumni and their experience. 

*The current state of health sciences research:*

# In this Curious Environment

*by Kenneth I. Shine*

"CURIUSER AND CURIUSER," SAID Alice as she observed some of the remarkable events early in her adventures in Wonderland. The same might be said for the current state of health sciences research in the United States.

Never before have the opportunities for the expansion of knowledge in the health sciences and the improvement of public health been greater. The genetic revolution offers the promises of preventing or curing some disorders. Cell biology has revealed many of the mysteries of cell development and growth and will lead to an integration of our knowledge of the structure of molecules, cells and organs. The neurosciences have provided insights into neurological diseases and mental and emotional disorders, which have brought the mind and the body together as never before thought possible. These are only a few areas of opportunity and promise in the health sciences.

Health sciences research—which includes biomedical research, behavioral and social sciences research, and clinical evaluative sciences—is contributing substantially to America's worldwide economic leadership. America is still the world leader in the pharmaceutical, biotechnology and medical device industries. These areas

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*The life sciences appear only infrequently on the national radar screen.*

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make up a substantial portion of our global exports.

There is no evidence that the current organization of health sciences research has produced significant delays or impediments in the translation of fundamental scientific discoveries or advances into new products. Rather, the identification of a gene that predicts the aggressiveness of breast cancer, for example, can result in the isolation of a gene product and a clinical trial within 18 to 24 months.

What makes the state of health sciences research so curious is that, with the exception of medical care outcomes research, little national attention is being paid to the role that health sciences research can and should play in the improvement of health. To date, discussions of U.S. science policy have focused primarily

on the physical sciences, with an emphasis upon engineering and technology, as they support economic competitiveness. The life sciences appear only infrequently on the national radar screen, and then primarily in the form of debates about the earmarking of funds for research on a particular disease.

In the face of the national budget deficit, it is understandable that there are significant constraints on the rate of growth of even the most important elements of the federal budget. However, the relative increase of 11 percent in funding of the National Science Foundation for fiscal year 1994, compared to the 6 percent increase in the funding of the National Institutes of Health, illustrates the emphasis placed on technology.

It is in this curious environment that developments in health care reform are increasing the pressure and anxiety felt by scientists concerning the future of health sciences research. Regardless of what health reform legislation is ultimately passed, the rapidly changing health care scene continues to place a premium upon cost as the determining factor for decisions made about health care contracting and patient referrals.

Yet just as there are costs for med-



ical education borne by academic health centers, there are costs for research that have been paid for by dollars earned from patient care. Although the costs of clinical investigations have been under pressure for several years, a significant number of patients are receiving experimental treatments for which the usual and customary costs associated with hospitalization or outpatient care are borne by third-party payers. The costs of experimental drugs and of their related tests and procedures are supported separately.

But as managed care continues to spread, health plans are reluctant to refer patients to academic health centers for clinical investigations that will increase costs. The Health Security Act proposed by the Clinton administration stipulates that accountable health plans must have a relationship with centers of excellence for clinical investigation or special therapies. But having a prestigious academic health center listed on a health plan's letterhead in no way ensures that referrals will be made to that center. The failure to refer appropriate patients would not only impede clinical research, but it could deprive patients of potentially valuable treatments and hopes for a cure.

Recently, a large jury award in California was brought against a managed care system (Healthnet) because it would not allow a patient to be referred outside for bone marrow transplantation. This verdict, while chastening, will not necessarily determine future behavior. It would be quite valuable if every accountable health care plan were required to establish a small committee consisting of individuals from the health plan and the community to hear appeals from patients or practitioners within the plan who want a referral for highly specialized care or for clinical trials at an academic health center.

There are several other important ways in which clinical revenues have supported health sciences research in



illustrations by John Tenniel

the United States. First, there are direct subsidies by clinical departments to support the infrastructure for research. As NIH funding became limited, salaries for secretaries and administrative staff, bookkeepers and a variety of other necessary components of research, have been subsidized from the net income of clinical practice plans. This pressure to subsidize research from clinical income arose as study sections, confronted with decreasing funds, removed support for these functions from grant awards.

At the same time, federal caps on administrative indirect costs no longer allow academic institutions to recover all legitimate costs of research. Instead, institutional funds—often money from patient care—have been used for this purpose. Less obvious

subsidies have been provided to most fundamental science departments in schools of medicine or academic medical centers. In some cases, these subsidies have been generated from the income of practice plans.

Until recently, it has been difficult to obtain information on the magnitude of this cross-subsidization because medical school deans were reluctant to tell clinical faculties how much money was moving into basic science research. Because of the structure of the hospitals and the medical school, this is not a feature of the Harvard system. As data accumulate, however, these sums appear to be substantial in some institutions.

In many cases, including the Harvard complex, hospital income has been used to support the construction

and renovation of research facilities as well as the infrastructure for research, such as core laboratories and animal care facilities. Hospitals have also provided funds to initiate new research programs. Increasingly, price competition and cost containment in health care will deprive hospitals and medical schools of the patient care income that has subsidized both basic and clinical research.

Health care reform also poses another kind of risk for the research enterprise. Between 25 and 50 percent of the inflation rate in health care costs has been attributed to the diffusion of new technologies. To the extent that cost containment discourages the belief that investment in research can result in an adequate return on investments, innovation may be impeded. This will clearly have a ripple effect throughout the most fundamental areas of the health sciences. Even more frightening is the notion expressed by some health economists and sociologists that biomedical research drives up health care costs by introducing expensive new innovations. The implication of this criticism is that decreases in the rate of growth of expenditures for health sciences research might secondarily reduce health care costs.

This latter notion is particularly misguided. It is true that in the past only a relatively small number of biomedical discoveries have reduced aggregate health care costs. Vaccines are probably the best example of this. More often, new innovations have substantially reduced unit costs but, because of large increases in the number of patients treated with the innovation, aggregate costs have risen. Coronary angioplasty and laparoscopic cholecystectomy are examples of this phenomenon.

The solution to this dilemma will be more rational reimbursement policies for innovations, rather than an inhibition of innovation itself. If reimbursement for a new antibiotic or biological material such as an antibody

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## *Academic health centers have a major responsibility to develop and test criteria used to evaluate technology transfer.*

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were limited in use to the specific circumstances under which its unique capabilities had been identified, rather than as a substitute for less costly interventions when there are cheaper alternatives, scientists and industry would develop rational approaches to new product development.

Parenthetically, this problem will likely escalate even further when genetic screening for substantial portions of the population is available. Even though a particular intervention might prevent the development of an important and costly disease, the aggregate short-term costs of screening and responding to the results may be quite large, although long-term benefits will accrue through the prevention of illness.

What does all this mean for preserving the remarkable health sciences research enterprise that currently exists in the United States? Government must take steps to provide alternative funding for the support of research and to replace the current subsidization of research from health care dollars. Limiting the health research enterprise during a period of cost containment will deprive the United States of momentum, which could take decades to recover.

Specific financial support should be available for clinical trials carried out in connection with clinical research centers funded by the National Institutes of Health in individual acad-

emic health centers. Funds should also be available to support studies of FDA-approved investigational interventions. In addition, academic health centers should develop appropriate ways to peer review faculty-initiated ideas and clinical investigations for which government financial support should be made available.

Senators Tom Harkin and Mark Hatfield have introduced legislation that would add a surcharge to monthly health care premiums to be used to support health sciences research. This is a sound idea that deserves support. The Clinton administration has indicated that, in the future, significant new resources will be available for research on medical outcomes. It is critical that these, in fact, be new funds and not money cut from other projects that could erode progress in other areas of health sciences research.

New initiatives in prevention research have been proposed and substantial investments of federal monies are under consideration. Unfortunately, these funds are at great risk because of the budget deficit. A substantial investment in prevention research, divided between its basic and applied aspects, would be extremely important.

At the request of the Department of Health and Human Services, the Institute of Medicine has established a roundtable on the impact of health care reform on research and education in academic health centers. In addition to facilitating in-depth discussions about many aspects of this problem, some primary data collection will be undertaken, including an attempt to understand the degree of cross-subsidization of fundamental research using patient care income. This analysis could aid in identifying how large a federal subsidy for research is needed to replace the patient revenues currently used for this purpose.

Academic health centers have a major responsibility to develop and test criteria used to evaluate technology transfer and the applications of



science. Assessing the outcomes of scientific innovation will not only help providers determine the best way to use scientific discoveries, but also will safeguard the scientific enterprise itself. By developing criteria for the appropriate uses of innovations, outcomes research can identify the need for new techniques to be applied to a critical number of patients so that skills are maintained at high levels. Such research can also inform reimbursement policies. Careful analyses will document those situations in which academic health centers provide outstanding results at competitive costs.

One of the recurrent themes of health care reform is the need to produce a more balanced medical workforce with a substantial increase in the number of primary care providers. Some have argued that efforts to achieve this goal might inhibit health sciences research and innovation. This is not true. With 45 to 50 percent of residency programs currently in subspecialties, there will still be ample opportunity for individuals to obtain subspecialty training. More importantly, the federal government must maintain its support of those programs that are actively producing scientists, including MD/PhD programs.

As indicated by Hillary Rodham Clinton and President Clinton, outcomes research will be a critical element in health care reform. Since moving to Washington, DC, I have been regularly called upon by friends and colleagues to obtain physician or hospital referrals for patients. As a newcomer to the area, I consulted the literature to find published results in relevant areas and used my own network of local colleagues to obtain information. It became increasingly apparent that what I was doing, on an ad hoc basis, should be part of the information infrastructure available to all health care providers and their patients. This infrastructure should identify both the individuals and institutions carrying out particular proce-

dures, and their results.

Judging by data collected by Jack Wennberg and colleagues, when patients have access to adequate data on care alternatives, they tend to select more conservative options. Ultimately, if we are to control health care costs and avoid explicit rationing, informed decision-making will need to be a critical part of the process. Development of a national information infrastructure for health care will be an important function of academic health centers. Electronic patient records, techniques for safeguarding confidentiality, ways of keeping data bases timely and accurate, and a host of ethical issues will require innovative solutions from our academic health centers.

Government and industry spend approximately \$30 billion to \$35 billion on health sciences research annually, with about \$15 billion coming from the federal government. It is not good policy for an industry with 1993 expenditures in excess of \$940 billion to invest only 1.5 to 3 percent of its resources on research that influences 14 percent of our gross domestic product, and in which investments have potentially enormous health and economic consequences. It will be essential to increase that investment in the face of health care reform.

Our academic health centers are fragile gems critical to the generation of new knowledge and new scientists. A competitive managed care environment will be only one stage in the move toward a more rational health care system. During the next few years, when price competition will be the principal strategy for change, great damage can be done to these academic health centers. Separate, well-defined streams of financial support for research and education will be essential during this transition period if America is to maintain its leadership in health sciences research.

At the same time, academic health centers must be prepared to play their part in health reform by strengthening their response to workforce needs and by expanding studies of outcomes research, quality assessment and technology transfer. Oddly enough, the development of a more rational, timely assessment of how the fruits of science are used may be one of the most important factors in ensuring that fundamental science can fulfill the remarkable promise that it offers. The special role of the life sciences in national science policy must be reinforced repeatedly while emphasizing the overall responsibility that academic health centers fulfill for society.<sup>24</sup>

*Kenneth I. Shine '61 is president of the Institute of Medicine, National Academy of Sciences.*

**Following, three HMS department heads discuss the ramifications of funding cutbacks.**



# Perspectives from the Quadrangle

## MARC KIRSCHNER

At a time when explorations in biology are at their most exciting, American scientists are grappling with the graver funding uncertainties likely to result from health care reform measures. An even more concrete concern is the political momentum now in force to target research monies to specific diseases.

"We're in a time of a major shakeup," says Marc Kirschner, PhD, chair of the new HMS Department of Cell Biology. "This is happening at the same time that the pace of biological discovery itself is exploding."

Kirschner, who is also the Carl W. Walter Professor of Cell Biology, came to Harvard Medical School last September after 15 years at University of California/San Francisco. Over the past five years, Kirschner has taken a proactive role in organizing scientific colleagues to educate leaders on Capitol Hill about how funding cut-backs could jeopardize the pre-eminence of U.S. biomedical research, and further erode the nation's investment in the next generation of research discoveries.

He is the head of the Joint Steering Committee for Scientific Societies, which helped Congress establish the Biomedical Research Caucus in the House and Senate, to whom scientists make presentations to convey the complexities of biomedical research. He also serves on the Delegation for *continued on page 31*

## PHILIP LEDER

The complex structure of the HMS Department of Genetics—as described by Phil Leder '60, Chairman of the Department of Genetics and John Emory Andrus Professor of Genetics—mirrors the interdisciplinary nature of the science itself. The funding of the department's various components is equally complex.

While Leder says that the genetics department is by no means immune to the growing scarcity in government funds, the multidisciplinary nature of genetics has contributed to his department's ability to obtain grants, despite difficult times. "I would say we're probably, in some respects, better off than other lines of investigation that have a less diversified resource base....Genetics touches on so many, many fields. The tools that are used in genetics have become the tools that are used in all of biology."

Funding of research in the Department of Genetics comes from a variety of government and industrial sources. The department as a whole is largely dependent upon NIH financial support. However, a portion of the genetics department faculty is supported by the Howard Hughes Medical Institute, while a MGH branch of the department is supported by industrial funds from Hoechst, a pharmaceutical enterprise.

But while the multi-faceted nature of Leder's department has been a sav- *continued on page 33*

## GERALD D. FISCHBACH

"If this continues for five more years, we will be in rather desperate straits."

A gloomy prediction from a leading researcher, who even within the well-endowed walls of Harvard is feeling the pressure of dwindling research funds from the National Institutes of Health. "Currently, only somewhere between 10 and 12 percent of the grants submitted are being funded," says Gerald D. Fischbach, Nathan Marsh Pusey Professor of Neurobiology and chair of that department. "That means that there are many very good—more than very good—excellent grants that are not being funded."

Young investigators are especially feeling the squeeze. Whereas in the past, almost all grant applications from first-rate institutions such as Harvard were successful on the first try, today, junior researchers are almost always denied the first time they apply. While they are usually approved the second time, and almost always by the third, the lapse between coming onto the scene and obtaining government funding can be between 18 months and two years—a major setback for someone trying to get going.

"Some people can't survive with that: their work is expensive, they lose ground with other people doing the work, their departments can't afford them," says Fischbach. "It's painful to see it and hard to not let people get *continued on page 34*





photo by Stu Rosner

**Marc Kirschner**

*continued from page 30*

Biomedical Research—originally formed to help forge a compromise on the bill restricting reimbursement for the indirect costs of research—which has been reconstituted to assess the impact of health care reform measures on the support of research.

"The concern is that if we go to a system of low-cost providers and universal coverage for health care, it will not only put pressure to cut back drug prices and the administrative costs of hospitals, but it will also indirectly have a substantial effect on clinical and basic research," says Kirschner.

President Clinton's Health Security Act has a "set aside" amount for medical schools and teaching hospitals that support research, but, says Kirschner, "It's not clear what they mean. The amount is set as 1 1/2 percent, but it's not clear who gets it or what it's going for."

What is clear is that a reformed system will no longer allow medical schools or academic health centers to subsidize research with monies from clinical practices. In some cases such money is directly financing research and in other cases it's being used to fill in the shortfalls caused by insufficient federal grant reimbursement for the indirect costs of research—grants offices, institutional review boards, salaries for secretaries and support staff, animal research facilities, environmental health offices.

"Though what will emerge is still unclear, we want to get together as one voice and make our case."

It is encouraging that efforts in Congress are generally to spend more, not less on research, says Kirschner. Polls show that the American people want biomedical research and are willing to support a long-term investment

to get results. Where they show more impatience for immediate answers, believes Kirschner, is with crime and drugs.

But many in the research community are disturbed that the government leaders are finding it politically beneficial to target research monies to specific diseases or to practical applications over basic science.

"It makes less and less sense to do that because the processes we're getting down to are more fundamental and general. You're as likely to find things out in quite different directions than the narrow direction you're first interested in. So there's a great deal of chagrin that politicians are more adamant about where to direct the money."

This has come from pressure from advocacy groups, such as on behalf of AIDS research and women's breast cancer. (Though Kirschner believes that many AIDS groups have gone through the process of first being determinative and directive to being more sympathetic to fundamental approaches to the disease.) But the women's breast cancer groups—whose motivations, he hastens to add, are unquestionable and understandable—want the money they raise narrowly set aside for just breast cancer research.

"If the hands of the NIH are tied by narrow prescriptions, then I don't think it will aid at all the causes of these diseases and will have an overall negative effect on understanding human biology. But I certainly understand the feelings involved."

His own research provides two examples of how unintended benefits can come out of unrelated research, something he says commonly occurs in research.

He was interested in the role of a protein called microtubules in cell division. Along the way, he and others in his laboratory purified a protein normally expressed in the brain called TAU protein, cloned it, looked at its gene organization and then at its antibodies. Several groups then showed

that TAU protein is the major component of neurofibrillary tangles, a hallmark of Alzheimer's disease.

"I wasn't particularly interested in Alzheimer's disease. I did all this work with an interest in the basic process of cell biology, and now there's a tremendous amount of work going on on this protein and its role in the neuro-pathology system of these tangles."

His other example is fundamental work he was doing on the basic biochemical mechanisms of how frog eggs divide. This work led to a general understanding of cell division as occurs in all higher cells, and was found to be applicable to cell death and cell regulation.

"There is hardly a part of biology that is not touched by understanding the biochemical regulation of cell division," says Kirschner. "We started early on a system that had nothing to do with cancer, but the work has made a major contribution in that area. If funding for this work had been ruled out because it was not being done on mammalian cancer tissue, we would know nothing about cell division today, which is critical to breast cancer."

Asked whether the so-called war on cancer is a model for how progress is not simply a matter of pumping money at a disease, Kirschner sighed in frustration. "Maybe it's a process we always have to go through. After a few simplistic ideas and wasting money early on in the war on cancer, people settled down to thinking about things more broadly and ultimately big contributions were made."

So it is particularly disconcerting to him now when NIH money is limited, and presumably will remain limited, to see growth only in targeted areas.

"The situation is as follows: we can guarantee the American people that there will be some advances on some important diseases in the next 10 years. Unfortunately the guarantee cannot be extended to specific diseases on a specific timetable."

The personal effects of dwindling

federal research dollars, says Kirschner, have been limiting but not crippling. "I have to spend more time worrying about money and less about science, but at least I'm in business and functioning."

It mainly affects two groups of young scientists: those starting out and those who have had some success and wish to broaden their scientific focus. Although all the young scientists in his department are supported by grants, he says many others spend two or three years doing nothing but applying for grants and getting turned down. The NIH is now funding only one in seven grant applications, about 15 percent.

As someone who has sat on a study section—responsible for choosing who gets NIH grants in a particular area of expertise—Kirschner says that you feel fine if half the grants are turned down and you can live with perhaps two-thirds being turned down. But if you have to agree on what constitutes the top 10 percent of that one-third left from the next 10 percent from the next 10 percent, "you're making all kinds of questionable distinctions."

"I would say if you look back later, you would find a lot of outstanding work in this 30 percent level," he says. "But if a grant application was not well written or was an imaginative concept, and thus more of a chance, it may not make the cut."

The other young scientists hurt by limited funding are those who, after initial success on a narrow problem, would like to make the transition to a larger lab with a broader focus. But for this they need additional funding. "There is a certain point in a career when you can do this and that is where the funding system is not working anymore."

With less government support, obviously other sources will have to be found. "For those institutions who can weather the storm, we're in for the most exciting period of history for biomedical advances. Those who can't keep up will be left behind."

Though there are very real pressures to be conservative, Kirschner believes that's a terrible mistake. "You have to take risks. Harvard made a substantial investment in cell biology and it is significant that they can do this now. Institutions are not being as experimental as they once were."

The demoralization and fear felt by American scientists unfortunately is also trickling down to the high school level to students contemplating future careers. Plus, math and science educational programs are deteriorating. "We're going to have smarter investors, but fewer and poorer scientists," quipped Kirschner.

But the problem really comes down to a simple fact that economic pressures in this country are very real. For example, Head Start and the NIH contend for appropriations in the same committee. "When I testified before the House Labor, Health and Human Services committee last year, I listened to heart-rending stories about deaf children trying to get an education. It was agonizing to think that their needs were being pitted against biomedical research, particularly since deafness itself is a biomedical problem. I can easily justify the value of research to society, but sometimes it's hard for me to argue that money should go one place over another.

"If money is tight and there's a narrow domestic agenda, it's hard to make an argument for more money despite all the good will." ❧

*Ellen Barlow*





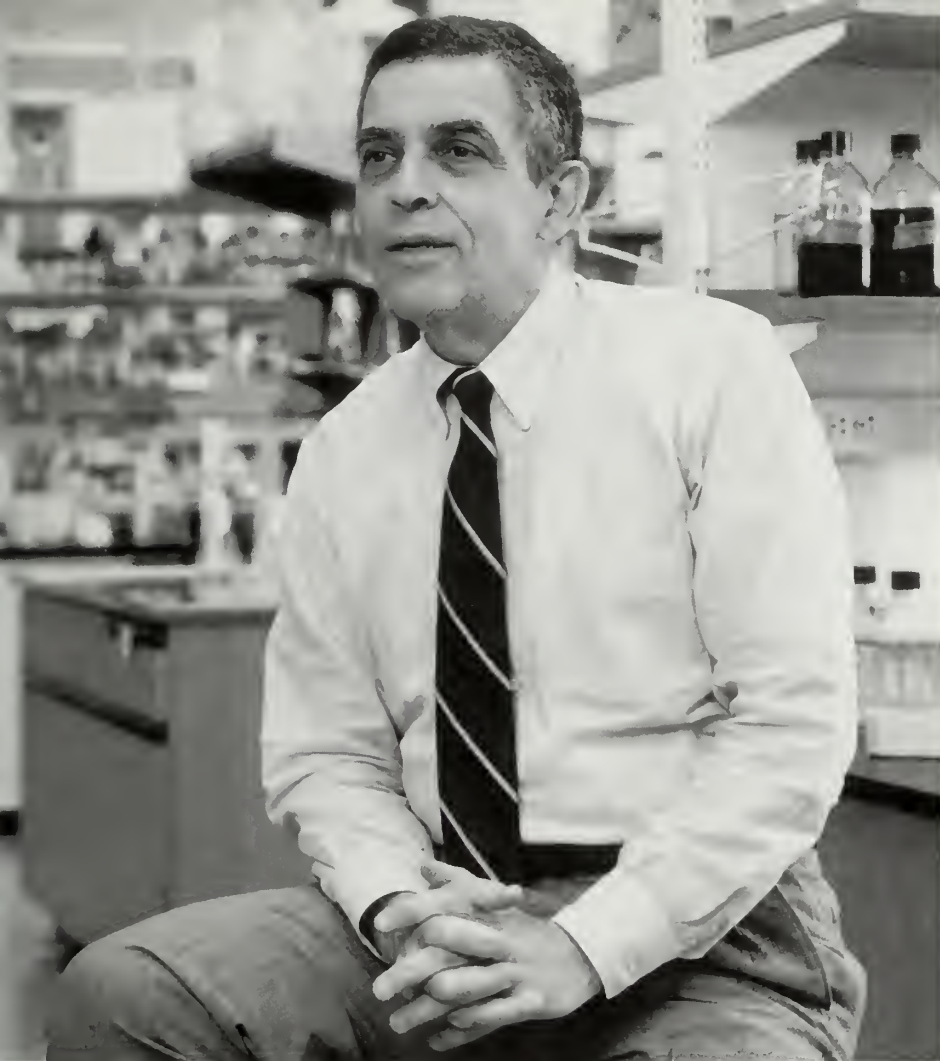


photo by Christopher Little

**Philip Leder**

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ing grace, it has not totally insulated it from cutbacks in funding. For example, junior researchers have been forced to spend more time and effort on applying for grants.

Says Leder: "One of the major areas in which we see an impact of the imbalance between resources and opportunity, is for young faculty members applying for their first grant. When they are successful, these grants suffer an administrative reduction. Obviously this means they have to keep trying and apply for more grants than they might have in the past."

According to Leder, researchers applying for grants are now under greater pressure: "I think people who apply for grants feel that the study sections are more likely to require more evidence of feasibility than they have in the past. Some kind of preliminary

evidence that the approach you are going to take is going to work before they'll take a risk. So there is somewhat less risk taking."

This conservative trend shows itself both during the grant application process and in the prioritization of research projects. Explains Leder: "The availability of funds does influence the direction of research. If funds become available suddenly for an explicit purpose, they will distract the research effort to that purpose. It's not the same as providing funds for research that is investigator-driven."

One program that has been used to great advantage in genetics is the much-publicized Human Genome Project. "This project happens to fit rather well with the interests of some investigators in our department," observes Leder. "We do have two projects in our department that are receiv-

ing Human Genome Project support. These include work that's being done by George Church on developing new methods of sequencing nucleic acids and work that's being done by Geoffrey Duyk, on the genetics of hearing in the human and in the mouse."

Leder believes that while governmental funds have become more and more scarce, industrial funds also will prove equally challenging. "The reality is that industry, with the recent slowdown, is not investing in the same way it did maybe five or six years ago. Scientists will probably still have to rely principally, in this country, on the NIH, which has been the traditional investor in the future of biomedicine and its progress."

Leder does not see the scientific community's dependence upon the industrial sector as an altogether bad thing, despite many analysts' fears that biomedical research will become just another product of commercialization. This is partially the result of his positive experience with his transgenic mouse model, which can be used to study cancer formation. Harvard owns the mouse model patent, while DuPont owns the marketing rights.

Observes Leder: "The mice are available. That's the one nice thing. You can get them whenever you want them. I think that another name for commercialization is really applying what's been learned in a basic laboratory to the public good. And to the extent that we can translate what we do into something useful—to improve the health of the American public—that's a very good thing. We obviously don't want to just take what was learned and sit on it. So in that sense application is important. Commercialization is a part of that."

Nor has the Department of Genetics's ability to obtain funds been affected by the the public's moral ambivalence towards genetic research. "The scientific community realizes that without these techniques and the genetic approach, progress would be

impossible in some areas," says Leder. "We think it's important to translate that need to the public. Many, many ethical issues arise from genetics and other issues concerning fertility. They easily get mixed up in the public mind, and sometimes perhaps even in the scientific mind when they are not necessarily relevant."

Because of these misunderstandings, Leder feels that it is vital for scientists to communicate the importance of their work to the public. "There are lots of things that we in science have to keep explaining. One is the use of genetic tools and progress in genetics as a way of overcoming disease. And another is that we need access to animal models of human disease, which are also very important. And a third is to keep participating in the educational efforts that get distorted—usually in fictional accounts of what scientists are doing, such as in (the novel) *Jurassic Park*. You read it and you can see that its intent is to thrill, excite, frighten and entertain, which it does. It also conveys the impression that it's accurate science, which it isn't."

While Hollywood will continue to thrive on rumors of science getting out of hand, Leder feels that much progress has been made in dispelling these myths. As a result of genetic research and applications, the past decade has seen the development of many useful biomedical products, diagnostics and therapeutic agents. These dramatic achievements have greatly contributed to public confidence in biomedical research. ❖

*Sarah Jane Nelson*



photo by Christopher Little



**Gerald D. Fischbach**

*continued from page 30*  
discouraged."

Research set-asides also create a difficult paradox for all involved: the researchers, Congress and the public in general. AIDS and breast cancer are particularly popular in the public eye right now and thus have obtained a good percentage of set-asides, or specifically directed research dollars. (President Clinton's new budget proposal includes a 6 percent increase in funding for AIDS research and a huge 28 percent increase for breast cancer.)

Not all of this is bad, says Fischbach. When extremely talented researchers switch their focus to investigate AIDS, then obviously treatments and cures will be found. But Fischbach worries that the increased attention given to one disease, even for research projects that are mediocre, might detract from important work in other

areas. "The set-asides are becoming very politicized. There seems to be a disease a month favored in Congress."

What Fischbach refers to as "fundamental" or "exploratory" research is undoubtedly the surest way to find what everyone ultimately wants: cures for disease. He edits the modifier, he says, because "basic research is developing a bit of a bad name these days."

"Most discoveries in medicine are made rather serendipitously. There's a unity to biology such that discoveries in one area do have impact in a seemingly different area."

Fischbach uses an example from his own work: the discovery of the protein present at the neuromuscular junction. "People interested in brain development and in the aging brain and even Alzheimer's disease might not be interested in that. But it turns out that this protein is present in nerve cells in



the brain that are among the first to degenerate in Alzheimer's disease."

Another example comes from within the field of AIDS research itself, although it originated even before AIDS become a household word. The late Howard M. Temin from the University of Wisconsin won the Nobel Prize in Medicine in 1975 for his discovery of reverse transcriptase. His research paved, if not bulldozed, the way for the identification of HIV. "These things are happening each day."

Beyond set-asides, says Fischbach, "the NIH is forcing investigators to operate in a much more applied way, more like a drug company." Overly directed research fetters the scientists involved and threatens to hinder creative thinking. A current example he cites is the quest to understand how ion channels work—molecules in nerve cell membranes that allow charged ions to pass through, and which are responsible for the conduction of nerve impulses.

Fischbach gives an example of a "brilliant young investigator" who is interested in pursuing this problem, but in order for this individual to obtain funding, a department head might urge the researcher to investigate how these ion channels work in the aging brain, or to focus on how ion channels are affected by drugs of abuse, such as cocaine and alcohol.

"The brilliant young investigator may feel constrained because he really wants to feel free to do exactly the experiments that he thinks are more important to answer the question, and not things perceived to be pharmaceutical."

One approach towards obtaining and stretching funding dollars is adjusting to another mechanism wrought by decreased funding—downsizing. That is, quite simply, to share the pot. "The whole notion of the Robinson Crusoe model, where everyone is on their own and they go out and get their own funding, may be impossible."

At the start of 1993, the Charles A. Dana Foundation awarded a three-year, \$1.8 million grant to a collaborative effort of HMS and its affiliates to study the effects of aging on memory loss. Researchers from the school, Massachusetts General, Brigham and Women's and McLean hospitals and from the Harvard Faculty of Arts and Sciences will all work on projects in their respective areas to answer clinical and physiological questions about memory deficiencies in normal, healthy aging.

Fischbach says he encourages such collaborations because they bring together the best mix of people. Also, the departments are growing closer together as the problems they investigate and the experimental tools they use grow increasingly similar. While he says this synchronization happens especially among young researchers, the work of senior scientists can end up being related, even when initiated with very different purposes in mind. Such a parallel is seen between his research and that of someone just upstairs: Phil Leder.

"This protein I was talking about turns out to be very closely related to a protein people in genetics are working on. Phil Leder is interested in breast cancer and we're interested in synapse formation, but it turns out that they're very similar proteins."

In some respects, it boils down to public relations, says Fischbach, and scientists are not very good lobbyists. "Scientists have to appeal more to the public and they've been slow to wake up to that. There's no question they've been in a privileged position for many years, where they've been provided for and they didn't have to go out and sell."

But he also recognizes that scientists need to justify their bid for a portion of that little pocket of federal money known as discretionary funds. "There's very little sympathy right now in the general public for unfettered basic research: people are impatient, they see their own troubles, they

know health care is incredibly expensive and they think research is part of the reason why."

Researchers need to begin to think of how their work fits into a broader social perspective and to make choices accordingly, even if that sometimes means narrowing their focus. "We can't just keep saying give us more, give us more." ❧

*Terri L. Rutter*







# Training Grounds for Primary Care

*by John D. Stoeckle, Laurence J. Ronan  
and John D. Goodson*

AMONG HARVARD MEDICAL SCHOOL'S notable distinctions, though seldom acknowledged and rarely celebrated, is the primary care provided by the out-patient departments (OPDs)—now the ambulatory services and group practices—of its several teaching hospitals and, most recently, by its first teaching health maintenance organization (HMO), the Harvard Community Health Plan (HCHP). Celebrated or not, today primary care at these many ambulatory practices has new importance for service and education. This was not always the case.

In retrospect, the numerous histories of Harvard's teaching hospitals but briefly note their OPDs, where primary care was provided for the urban poor, while the hospital itself is celebrated for its care of the sick-in-bed, specialty

departments, diagnostic technologies, clinical research and, of course, the education-training of students and residents. Yet from their beginnings in the 1840s (Mass. General Hospital) and the 1920s (Beth Israel Hospital) and thereafter, the OPDs were essential to hospitals. There they could screen the walking-sick for appropriate admission, "follow-up" (nowadays the "outcomes") of their treated cases, and provide some primary care for those chronically ill who were declined a bed, thus fulfilling the hospitals' founding mission of care of the community.

The size of those out-patient services rapidly grew in the 1900s in response to the large influx of new immigrants to Boston, and their scope gradually diversified with the expansion of medicine's subspecialization. In 1910, when Boston's population was 650,000, some 135,000 OPD visits were

Howard Sprague, Paul  
Dudley White and medical  
students see a patient in  
the OPD clinic at MGH,  
1920.

noted by Richard C. Cabot in his 1911 Shattuck Lecture, "Observations Regarding Relative Frequencies of the Different Diseases Prevalent in Boston and Its Vicinity." Calculating visits as persons (which, of course, they were not), he nonetheless estimated 20 percent of Boston's citizens went to OPDs. If use of the OPD by the public was high, its use by clinical departments for teaching was not, despite Cabot's pedagogical prescription:

*"Education of future doctors should be carried on in dispensaries as well as hospital wards, or better ... good dispensary work furnishes first-rate training in diagnosis, in the guidance of patients, and in the knack of 'getting at' all sorts of ages of both sexes—under conditions less abnormal than those of a hospital ward."*

With some exceptions, only a morning session each week in the clinic was the usual "service" obligation of the resident in learning to care. Besides instruction on the hospital wards, students too were sometimes

*If use of the OPD by the public was high, its use by clinical departments for teaching was not.*

briefly assigned to the clinic to learn history-taking and the physical exam on outpatients.

Since those early days, the use of hospital OPDs in educational training has changed markedly. By the 1970s, ambulatory services were made accessible to the general population and no longer restricted by the "means test" to only serving the sick-poor and to avoiding competition with private practitioners. Reorganized with a salaried staff—no longer staffed by voluntary "part-timers" who served in exchange for hospital privileges—the

departmental group practices developed new programs for education, training and research, which were initially supported by foundation and, later, federal grants.

As their OPDs were reorganized, hospitals also organized or affiliated with neighborhood health centers, and HCHP expanded its community centers in and around Boston. These, in turn, have become additional community-based teaching practices for residents, students and clinical fellows.

For residents, programs in general internal medicine or pediatrics were established at Beth Israel (BIH), Brigham and Women's (BWH), Cambridge, Children's (CH), Massachusetts General (MGH), Mount Auburn and New England Deaconess (NEDH) hospitals, some of which included rotations at the HCHP and Harvard University Health Services (HUHS). Though family practice training was never developed (indeed resisted) at HMS, in 1990 an alternative medical-pediatric training program was started; the first at MGH, and this



## HMOs Offer Novel Approaches

To juxtapose primary care to Harvard Medical School, the institution esteemed for producing first-class medical researchers, academic physicians and even Nobel laureates in medicine, seems at first glance like an error in syntax. Yet, the man charged with developing a more substantial primary care program at HMS predicts that HMS will command a leading role in this arena.

"The actions of the school and students who emerge to assume leadership positions

will make a major contribution to the development of primary care systems, public policy, the relevant science base, available technology for decision-making and approaches to managing the costs and quality of care," says Thomas Inui, MD, head of the recently formed Department of Ambulatory Care and Prevention at HMS and Harvard Community Health Plan. "It is important that we take explicit steps to invigorate our primary care academic programs. Our academic peers and the public watch quite closely what we do here."

Since coming to the school from the University of Washington a year ago, Inui has created several primary care division working groups,



year at BWI-CH.

Today, more ambulatory experience (25-40 percent of total training) is a basic feature of generalist training in these specialties, with the rationale that complex as well as ordinary illness can be comprehensively worked up with technologies decentralized outside the hospital and collaboratively managed with specialist colleagues. For students, a two-month ambulatory clerkship that uses the several hospital group practices, clinics and HCHP centers became a required course in 1991. The staff of these same practices furnish most of the tutors in the weekly year-round seminars of the New Pathway's Patient-Doctor I and III courses.

The research agendas of these practicing staffs are diverse, including clinical epidemiology, clinical effectiveness and outcomes, population studies, decision analysis, doctor/patient communication, health policy, clinical disorders and teaching methods. These studies have engaged clinical fellows seeking academic posts in general

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## *Primary care has a renewed mission, namely care and prevention of chronic illness in the community.*

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internal medicine and pediatrics.

Today, the importance of these teaching practices to HMS in the care of patients and for the learning of students, residents and fellows is far greater, particularly as the domain of the hospital shrinks, with hospital beds going empty and the number of outside office visits going up, as they have done over the last two decades. Indeed, today primary care is in a new growth using diagnostic technologies decentralized outside the hospital. It

has a renewed mission, namely care and prevention of chronic illness in the community—a mission that has, in turn, a national agenda in today's health care reform of risk assessment and reduction, early disease diagnosis and treatment, and functional assessment for disability improvement—all presumably at less cost. With government policies pressing medical schools to train more generalists, the primary care practices under HMS may become still more important as teaching centers for the renewed education-training of those generalists—perhaps of specialists, too.

How big then is this enterprise of primary care among the group practices of Harvard Medical School's hospitals, their neighborhood health centers and HCHP? Compared to any medical school, it is sizable because HMS began with the community practices of its hospital OPDs, unlike the state schools in the 1950s that developed with university hospitals as tertiary referral centers. One yardstick of the size of the HMS enterprise is the

who are developing a set of recommendations of how to expand the curriculum, provide better information to students with interests in primary care-related careers, and support faculty in primary care. He will present their findings to the faculty and administration this spring.

Inui explains that a movement towards ambulatory care is not the radical departure from the current state of HMS that it may initially appear to be. Of the nearly 7,000 faculty at HMS, over 600 consider themselves practitioners of primary care, he says, even though they're in specialties such as internal medicine, ob/gyn and psychiatry. From that group more than 200 volunteered to work with Inui in

one of six working groups, each with a distinct mission: to evaluate the overall HMS mission in primary care; mentorship for students; alternatives to the now-standard ambulatory care clerkship; faculty/student seminars in primary care (the Cabot Series); new content in the primary care curriculum; and the development of community-based experiences.

"It's very difficult today to teach general internal medicine, pediatrics, psychiatry or rheumatology solely on an inpatient basis in hospitals," says Inui. "Changes in the use of hospitals has made it harder and harder to find an appropriately diverse case mix of clinical problems there. Changes in diagnostic and treatment tech-

nologies also have shifted many procedures from the hospital to freestanding ambulatory care facilities. Cataract extraction, for example, used to be carried out in an operating room and required a lengthy postoperative inpatient stay. Today, the procedure is safely completed in outpatient facilities without ever entering a hospital."

As more patients seek care from integrated care delivery systems, such as HMOs, it follows that the HMO has become a more significant teaching site for medical students. For HMS students, that setting is the Harvard Community Health Plan. "HCHP is what every medical school coast-to-coast wishes it had among its affiliated organizations."

The Teaching Center faculty at HCHP, part of the new department, are looking at ways to expand the teaching role of HCHP. Already, the HMO is incorporated into the patient/doctor course, and nearly one-half of HMS students in the school's ambulatory care clerkship have their clinic sessions at HCHP sites. As a group, HCHP faculty are active participants in HMS teaching programs. Each year about 60 percent of HCHP physicians voluntarily teach HMS students in at least one of the school's required courses, and over a three-year period of time, nearly 80 percent teach.

Since the time of William Osler and the last great academic reform in medicine in 1910, the teaching hospital

number of visits to these medical and pediatric practices and their staff. The table of visits and staff on the opposite page gives a general measure of where we are now as new pressures emerge for more ambulatory education-training.

Since Cabot's report nothing, of course, is the same. Even with more ambulatory service, as these numbers note, and more education-training, still more instruction-learning is likely as care outside the hospital is reorganized into groups that link both primary and specialty care. The learning citadel of the hospital may be diminished as such groups become teaching practice centers. Regardless, HMS is well positioned, even with these educational uncertainties and the economic ones, in the market reform of health care.

That reform will likely challenge how HMS's primary care practices are organized and operated. They may be reorganized into still larger groups, as independent professional corporations alongside hospitals, as hospital-owned

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*The learning citadel  
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multi-specialty physician-employee groups, or as health maintenance organizations, each contracting with corporate purchasers for services. The practices may operate with more technologies for patient care management, more home care services, the telephone as an alternative to face-to-face visits, more standardized managed care, and more shared practice with nurse practitioners.

Whatever the future, corporate purchasers may seek to limit the education and training options of practice, since these bear a cost. In such business negotiations with those who pay, govern and manage, the learning to care and teaching will need our professional support. ❧

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has been considered the "paradigmatic academic institution," says Inui. "Osler considered successful teaching and learning to be present if these activities could take place: patients present significant medical problems, faculty and students provide care together, and active facilities for the modern science of medicine are present."

But today, many pieces of this process are moving out of the hospitals and into community-based health care organizations. "My guess is that in the year 2010, we won't replace the academic hospitals with the academic HMOs, but we'll see a much more balanced scene between the two."

The HMO also serves well as the base for the "new sci-

ence" of medicine: not the biological, molecular kind, but the computer-based outcomes research and evaluative health sciences kind. Because a patient in an HMO is monitored over a period of time, and because many physicians practice within an HMO, evaluating and comparing treatment outcomes is done relatively simply because the necessary information is available. This information availability is a prerequisite for analysis on what practices are best and provides support for making changes in care systems.

"What we need to do is work, educate and train in settings where there are no partitions, from an informational point of view, between hospitals and ambulatory care,"

says Inui. "The seamless system is necessary for effective medicine and medical education today."

Inui also emphasizes that the HMO is integral to preventive medicine. An HMO knows whom among its enrolled patient base to target with newsletters or other information (for example, to alert women over age 50 of the necessity for routine mammograms), whether or not they have become actual "patients."

Community health education is also necessary for prevention: "If we want to be part of the social management of HIV risk, we have to be in middle schools and high schools participating in health education, helping kids to learn how

to minimize their risks of potential exposures to HIV."

America is involved in an enormous process of change, with many forces bearing down on the way health care is delivered. "We're going to have to take a really big breath and believe that we can do this to maintain leadership," says Inui, something he believes is well within Harvard's grasp.

"This institution has always been about leadership and excellence. It has always felt that any student who walked in the door with an interest ought to have an amazing experience and be able to find incredible resources for their educational development. That should be as true in primary care as in any other area."

*Terri L. Rutter*



# Ambulatory Visits (Medical/Pediatric)

## Staff Physicians (Group Practices/Health Centers)

Hospital and HCHP Group Practices and Health Centers	Ambulatory Visits Medical/Pediatric	Staff Physicians, Medicine/Pediatrics Full and Part time
BWH and Health Centers <i>Jamaica Plain, Brookside</i>	130,000	40
BIH	40,000	23
Brockton-West Roxbury V.A. Medical Center	36,000	10
Cambridge and Health Centers <i>Winsor Street, East and North Cambridge, Riverside, Cambridgeport</i>	35,000	15
Children's and Health Centers <i>Martha Elliot, affiliated</i>	53,000	15
HCHP Centers <i>Boston, Braintree, Cambridge, Copley, Kenmore, Medford, Quincy, Somerville, Watertown, Wellesley, West Roxbury</i>	700,000	231
HUHS <i>Cambridge</i>	56,000	22
MGH and Health Centers <i>Bunker Hill, Chelsea, Revere; North End Community, affiliated</i>	220,000	85
Mt. Auburn	28,000	18
NEDH	20,000	16
<b>TOTAL</b>	<b>1,318,000</b>	<b>475</b>

# Technology Tradeoffs

TECHNOLOGY ACCOUNTS FOR HALF OF the spiraling health care costs, but virtually every new technological development benefits someone. Better assessments can and should be done to more cost effectively target the application of technologies, but are we then prepared to deny patients outside of the "target" what might be a preferable treatment? These points emerged as the crux of the issue of health care costs and technology, as discussed at the HMS Department of Health Care Policy's latest "Bridges" program, a meeting of the minds among academic physicians and senior government health care policymakers, who convened at Harvard Medical School January 14.

The Bridges program was initiated in late 1991 by Barbara J. McNeil '66, Ridley Watts Professor and chair of the Department of Health Care Policy, as an educational effort to let "policymakers know what is happening on the cutting edge of research." The first two meetings—on Medicaid and access to health care, and on outcomes research, respectively—were so successful that the department received additional funding to expand the number of invitees from an original four federal government participants per meeting to the eleven who came in January.

Participants included health policy advisors to senators and representatives; staff members of such key health congressional committees as the Senate Committee on

Labor and Human Resources, the Senate Special Committee on Aging, the House Committee on Energy and Commerce, and the House Committee on Ways and Means; and officials from the General Accounting Office, the Congressional Budget Office, the Office of Technology Assessment's health program, and the Health Care Financing Administration.

McNeil set the tone for discussion by delineating the factors behind concerns about technology:

- geographic variation in usage rates;
- high rates of inappropriate use;
- site-specific results (complication rates vary);
- explosive growth across the board.

"Real per-person spending on health care has risen by a factor of 9 over the past 50 years," said Joseph P. Newhouse, PhD, the John D. MacArthur Professor of Health Policy and Management. Newhouse recounted his research into why hospital costs have continued to rise so precipitously. He eliminated as minor contributors a few much-talked-about reasons, such as an aging population, which he found only accounts for about 4 percent of the increase; spending on the terminally ill, which has been stable the past 25 years; administrative spending, which is higher than in other countries but not high enough to account for much of

the increase; and the greater number of physicians now being trained—he found no correlation between number of physicians and spending.

That left him with technology as the major culprit.

"Technological change on balance enhances capability and costs." He defined technology as drugs, machines and procedures, such as cardiac surgery, organ transplantation, dialysis, artificial joints and intraocular lens implantation.

"The real issue is technology 'at the margin,' what isn't buying you anything," said Newhouse. This was a point echoed by Earl P. Steinberg '78, professor of medicine and health policy and management at Johns Hopkins, who said "It's not just the technology, it is how the technology is used."

One example Steinberg cited was a new radiographic contrast dye approved by the FDA in 1986, which produced no difference in the quality of image, but was safer and more comfortable. The price, however, was \$40 to \$50 higher than the old dye, which is safe but not risk-free, potentially causing reactions that range from hives or pain, to a small probability of heart failure, kidney damage or even death. Considering that there are 10-12 million procedures per year that use such dyes, nationwide the new dye used exclusively would make a \$500 million difference.

"We found that we could identify patients at high risk of adverse reactions to the old dye and thus lower morbidity

by using the new dye for them," said Steinberg. "But hospitals are afraid to use the new dye on just the high-risk patients in case they get taken to court."

"It is incredibly cost-effective to target, but it's not clear that we are prepared to do that," he continued. "Doctors know the new dye is safer. And of course if patients knew about it, they'd all ask for it."

Steinberg presented another example, an anti-nausea drug called ondansetron, which has been shown to be the most effective way of preventing nausea and vomiting due to chemotherapy. It costs \$43/dose (\$120 per day) versus \$1 for the standard anti-emetic. But now hospital personnel have been generalizing its use to all post-op patients and others with nausea, although there is no data to show that it is more effective for them.

"Managed competition will not eliminate the need to make tough choices," summed up Steinberg. "If we have a standard benefit package at the federal level, someone will have to deal with what is covered and what isn't."

Participants then trooped through some light snow to the Dana-Farber Cancer Institute (DFCI) for a tour, lunch and an update on cancer therapy by Robert J. Mayer '69, professor of medicine and DFCI clinical director. "As a result of Sidney Farber's pioneering studies with chemotherapy, great progress has been made in the



treatment of cancer," he said. The biggest success story is childhood leukemia; whereas in the 1940s pre-Farber era everyone died, now about 80 percent of children with leukemia are cured.

The next site visit was to the Brigham and Women's Hospital to hear James M. Kirshenbaum '79, director of acute interventional cardiology, trace the revolution that has taken place the past 25 years in the treatment of heart disease. Cardiology has a very heavy equipment expenditure base, he said, and he used the management of myocardial infarctions as an example of how dependent cardiologists have become on technology.

Nowadays if someone comes into the office complaining of chest pain, a history alone should detect 70 to 80 percent of problems that should be treated; add a stress test and accuracy of diagnosis is 85 to 90 percent, he said. For most of these people, it should be sufficient treatment to stop smoking, eat right and take aspirin or inexpensive beta blockers. The technological interventions—angiograms to detect narrowings and angioplasty (via balloons, lasers or cutters) to open clogged arteries—ideally should only be used for those whose stress test indicated a severe problem or for whom medical therapy is clearly not working.

But, according to a study by Thomas Graboyes, director of the Lown Cardiovascular Center, one-half of all coronary

angiography is not necessary.

Balloon angioplasty takes only 15 minutes, but costs about \$3,600 and there's a 30 percent chance a patient will be back with another blockage in three to six months. "But it is something you can do immediately," said Kirshenbaum, "versus taking aspirin and changing your lifestyle."

Back at Countway Library for a roundtable discussion, practicing generalist physicians and specialists talked about the implications of reducing the use of technology. Richard Hannah '66, who has a private practice in Salem, Massachusetts, made a plea for the importance of physicians adhering to the roots of the profession: "We should treat patients according to their best interests and not according to financial interests."

Joseph T. Coyle, Eben S. Draper Professor and chair of the Consolidated Department of Psychiatry, described how advances in neurochemistry and the neurosciences—brain imaging, drug development and informatics—have transformed psychiatry. Robert Glickman, Herrman L. Blumgart Professor of Medicine and a gastroenterologist, pointed out that the prevalence of complaints arising from his "consortium of organs" is responsible for a lot of health care costs. "We have many examples of very helpful technology, but we need better guidelines on the appropriateness of using it."

Put another way, "Each technology is good and worth

the price if used on the right people," said Lee Goldman, MD, MPH, HMS professor of medicine and HSHP professor of epidemiology, "but once the genie is out of the bottle, there is no way to regulate use." The key issue in his field, cardiology, is expanding the base of patients who might benefit from these expensive technologies—CCUS, fancy medications and bypass surgery—which he credits for about one-quarter of the 20 percent decline of mortality in cardiology. (Half of the decline is due to changes in the way people live and the rest is because of such preventive interventions as treating hypertension.)

Perhaps appropriately, the day ended with a depiction of what patients really want by Robert J. Blendon, DSc, Roger Irving Lee professor and chair of health policy and management at Harvard School of Public Health. Blendon is an expert in conducting public opinion polls on health care issues. Most people don't believe we are spending too much on technology, he said, and technology is not really an issue in the public mind unless there is a case of rationing based on age or if technology is denied, particularly if the technology relates to a high-profile disease.

There was discussion about how the tradeoffs in medical care could be explained to patients, either via written material or interactive video. But one policymaker pointed out that the real issue is taxes, and that it is fine to talk about

buying extra coverage for business or first-class medical coverage, but how do you then pay for coach class?

"The large share of people think that it is terrible that the uninsured don't get health care," commented Blendon. "But they don't think they should have to pay for that care."

*Ellen Barlow*



photo by Barbara Steiner

# Uncertain Future

by Joshua Hauser

BEFORE BILL CLINTON WAS ELECTED we as medical students would go home for holidays and family events and be asked about a great aunt's "rheumatism," or a third cousin's kidney ailment or even that little mole on the baby's bottom. We would listen, we would silently shuffle through snippets of lectures we happened to remember, ask a few questions and say something like, "It might be lupus or then again, do you have any diabetes in your family? Really, you should probably ask your doctor." It was, in short, a way of shrugging our shoulders when we were too proud to do so.

In this era of health care reform, the questions are no longer about diseases with complex mechanisms but about policies with complex implications. Although the jargon has made it from the science section to the front page of the newspapers, much of it remains opaque. And, while we are still tempted to shrug when asked ques-

tions like, "Where do you see health care in the next decade?" we do make an effort to say something like, "Managed competition might work, but then again I wonder if the purchasing alliances would have sufficient leverage."

Instead of suggesting that our relatives go to a doctor, we might recommend a think tank or a congressional committee hearing. This, we will assure them, will clear things up. And then we will wish things were as seemingly straightforward as that diabetes lecture we somehow slept through.

What health care reform will ultimately result in continues to be the subject of more *New York Times* articles and *Newsweek* pie charts than most of us feel comfortable reading. It is also the substance of at least five "major" plans before Congress, only two of which "seem to have a chance of passing" (as we hear on the news) at any one time. As I write this, it is the

Clinton plan and the Cooper bill that are the anointed ones, but when this goes to press it might be two others.

Yet despite (or perhaps because of) all the debate, all the committees, task forces, lobbyists and op-ed pieces, there is tremendous uncertainty about what the future holds. As medical students, we will spend all of our professional lives under the umbrella of some type of health care reform. Although our many of our friends and relatives are suspicious (and hopeful) that we have some "in" on the health care debate, we often find ourselves as uncertain as everyone else.

Eleanor Drey '96, who taught high school English before coming to medical school, puts it this way: "To go into medicine now is to put one foot in front of the other without knowing if you are following the same path on which you thought you started. Of course, all of us knew the system would have to change and we can hope



that the changes will help us practice good, if not better, medicine. At the same time, we need to work to ensure that medical values are not compromised by medicine's increasing commercialization."

Elbert Huang '96, who worked for the Agency for Health Care Policy Research in Rockville, Maryland, takes a more personal view of the future of health care reform: "I've never felt so uncertain about something that I want to work so desperately."

Joshua Sharfstein '96, who recently co-authored an article analyzing the American Medical Association's political contributions, believes that time and complexity add to the problem of uncertainty. "Although 'medical students will be profoundly affected by the coming changes in health care, few of us have the time or energy to stay on top of the ongoing, increasingly complex, debate.'"

Sharfstein adds, "Ironically, students who may be most affected by the shift to managed care—future subspecialists and sub-subspecialists—may have the least time to monitor what may happen to them, as they work furiously to gain acceptance to competitive residency programs."

Amidst the complexity of the problems and the uncertainty of the outcomes, there is also the potential to lose sight of our original goals. For Tom Gaziano '96, who spent this past summer working for West Virginia Senator John D. Rockefeller IV, the danger in the current health care debate is adrift from our original purposes.

"One of the prime motivators for health care reform many years ago was that many people were either underinsured and/or receiving inadequate care. The other motivator was certainly increasing costs. It appears that the latter has become the dominant topic of discussion, especially as the deficit continues to be a primary concern of many voters.

"I only hope that the effort to contain costs is not at the expense of the

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*"I've never felt so uncertain about something that I want to work so desperately."* Elbert Huang

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quality of treatment, especially for those who stand to gain the most from proper medical care and who were the initial motivator for our discussion of reform."

Within all the complexities of the current debate and all the questions about the future system, we must hold fast to the original motivations and goals of this whole process.

While unsure of the future of health care reform, we at least have a more concrete sense of the past. Among the first questions for students and physicians alike is: Where did all this momentum for health care reform come from?

Atul Gawande '95, who is certainly the only Harvard medical student to have been given his own nickname ("Egghead") by Clinton campaign director James Carville, has some perspective on this question. Gawande took a leave from medical school to serve as Clinton's health care and social policy adviser during the 1992 presidential campaign, a senior member of his transition team and later a senior adviser to the assistant secretary for planning and education in the U.S. Department of Health and Human Services. Before that, he worked for Tennessee Representative Jim Cooper, who sponsors the current main rival to Clinton's plan.

Health care, Gawande points out, was not a mainstream issue in recent years until it became wed to two other mainstream issues: the economy and security. In 1988 Michael Dukakis had universal health care on his platform in

his run against George Bush, but even the most careful campaign watchers recall his helmeted head peering out from a tank better than they remember his position on health care. George Bush took his resounding victory to mean that people were largely uninterested in health care, and so the issue remained in the hearts of many academics and a handful of congressmen but virtually no political pollsters.

In the 1992 campaign it was not Bill Clinton but Senator Bob Kerrey of Nebraska who was the first candidate to introduce a health care plan—a single-payer one. A month later Clinton issued an 11-page paper of principles that included a version of the employer mandate, which now stands as a controversial centerpiece of his plan.

From there, several important facts and one overriding feeling continue to drive the debate: there are at least 37 million uninsured Americans, we spend 14 percent of our GNP (over \$800 billion) on health care, and cost increases in Medicare and Medicaid account for as much as 50 percent of the federal deficit. The feeling is one of insecurity: we won't have the coverage we want, we won't be able to choose the doctor we want, we won't be able to afford the medicines we need. In the health care debate, all sides play to this emotion.

The insecurity that the president and the Washington press corps tell us the public feels is an interesting parallel to the uncertainty that we as students feel. Part of the challenge we have in imagining the future of health care reform is the lack of concrete evidence of it in our daily lives in classrooms and clinical rotations. While the issue has come to occupy the pages of newspapers and journals, on the wards the experience of health care reform is largely embodied by one name, often spoken in a sardonic tone. "Hillary wouldn't like that" or "What would Hillary say?" is a not infrequent answer to questions like, "I wonder if this patient needs an MRI?" Although

third year of medical school is clearly a difficult time to engage in meaningful discussions of reform, we hope that the level of dialogue can become at least a little more substantive.

As the recent affiliation between the Brigham and Women's Hospital and Massachusetts General Hospital illustrates, the health care reform debate is as local as it is national. But while this might be a (proposed) concrete step into the future, it only makes our own uncertainty as students more immediate; instead of what will reform mean for the health care system, the question becomes, what will the new structure mean for our residency programs?

I think that for most of us it is easier to imagine ourselves as "residents" than it is as "doctors" during much of medical school. This may be a semantic distinction, but it is an important one. In that way, when we hear about the Brigham and Mass. General merging and wonder whether the residency programs will merge, or we hear of new proposals that medical schools are moving toward placing 50 percent of their graduates into primary care, health care reform stops being something that will affect us as "doctors" but something that will affect us in the next year or two.

As health care reform comes closer and closer to us, we wonder about where we might find a complete guide and a clear voice in the process. As medical students, we have grown used to looking into creatinine values or antibiotic sensitivity. There is no Harrison's, however, for health care reform. But we wonder if there might be equivalents.

As Sharfstein says, "In the absence of time to think about and get involved with health reform, medical students must rely on others to speak out for our interests." Sharfstein continues, "One obvious candidate is the American Medical Association, a group that represents a large number of U.S. doctors. In an analysis I wrote with my father in the *New England*

*Journal of Medicine*, we found that the AMA's political contributions flow more heavily on average to representatives with poor public health records. Since public health concerns are extremely important to me and to a significant number of my classmates, I have begun to wonder whether the AMA's influence in the health care debate is something to welcome."

Finding an impartial voice in this debate is a difficult task. As often as not there is someone who is getting blamed in discussions of health care reform and, depending on where your interests lie, the villains range from the "inefficient" government bureaucrats to the "out of touch" doctors to the "selfish" insurance companies to the "irresponsible" uninsured whom we are told, in a particularly snide tone, "did something to get that way."

"Ultimately," Sharfstein believes, "we as students have to find time to stay informed, and we need to speak for ourselves on issues we care about, no matter what those may be." For Sharfstein, the hope is for a health care system with the following features: "universal access to a comprehensive set of benefits; increased physician independence from oversight by businesses or insurance companies with profit motives contrary to patients' interests; and cost structures designed to foster efficient resource allocation and preventive medicine."

These are the ostensible goals of Clinton's plan. And, at this point in the debate, our naive hope is that the more than 1,300 pages of the Clinton Health Security Act might be a stand-in for Harrison's. And yet, even with such an exhaustive guide, questions remain. Some are the same questions we asked when we bought all those textbooks: How will we ever have time to absorb all of this? Others are more specific than before, but all are potentially troubling.

Huang says, "I support many aspects of President Clinton's Health Security Act in principle; I am generally uncertain about the specifics laid

down by the plan. For example, I agree that patients pay co-payments for procedures and visits in order to increase awareness of health care costs, however, I have no sense for how much of a co-payment would be appropriate." Is this like doses of an antibiotic? Is there an ideal one? Where's the literature? All these questions pop up in our minds.

Huang continues, "The section of the administration's proposal that I have the most misgivings about is in regards to the regional health alliances. They ensure that providers and plans meet standards of care, access and cost in addition to educating consumers. This is the new marketplace where 'managed competition' is to take place. While, like others, I worry about the creation of another level of government regulation, my major concern is that true access and true competition will not increase in the revised system. Specifically, I am concerned that people in rural areas will continue to have difficulties reaching physicians and have limited number of health plans to choose from. Managed competition will be most heated in urban centers where there is already competition among plans."

While a blanket requirement of 50 percent of new graduates going into primary care certainly meets a need, it might not address a current way of thinking. As Huang writes: "The Clinton plan proposes increased incentives in the form of loan forgiveness and changes in the number of residencies available for primary care and specialties. What these changes ignore is that the very culture of medical school needs to be modified to make these changes effective and acceptable."

Although medical school "culture" is one thing that may undermine some of the reforms in the Clinton plan, how we define benefits and services may be an even more critical question. Nowhere is this more apparent in the debate over primary care. As a country, we have certainly grown used to using the term, but I wonder if we



have looked thoroughly enough at what it means: What constitutes primary care? Who gives primary care?

Gaziano believes "the debate over defining what is a primary care physician while perhaps necessary could lead to a disservice to public. The emphasis ought to be on the types of primary care services that we want to ensure every citizen receives to live a healthy, happy and productive life—regardless of who provides the service. If we expand the number of groups that can call themselves primary care physicians, motivated by reimbursement, then we will not have much of a problem of getting 50 percent primary care physicians. But will we have served the public by not actually increasing the number of physicians who can adequately provide the type of care we as a society come to agree that everyone ought to have?

Many of us at HMS remember the uncertainty and anxiety of starting on the New Pathway as first-year students. As much as we wanted to know and learn, we also wanted to know what we needed to know and learn. Dan Goodenough, master of the Holmes Society, gently encouraged us

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*Our naive hope is that the more than 1,300 pages of the Clinton Health Security Act might be a stand-in for Harrison's.*

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to have our own barometers and to venture on our own paths; when we trusted his advice, things seemed to fall into place.

There is, I think, a similar anxiety about health care reform. At this point there seem to be many paths to change and few sources of complete and impartial guidance. After things "fell into place" (or at least seemed to) sometime near the end of second year, we had the jolt of third year and the same questions came up, only it was

"What do we need to do?" as often as it was "What do we need to know?" In health care reform, these two questions are endlessly intertwined and they are, of course, dwarfed by a third question: "How do we do it?" I wonder, as we enter the second and third years of this debate, where the jolts will be and when we might look back at all that has been pushed and pulled and see what has ultimately "fallen into place."

*Joshua Hauser '95, a member of the editorial board of the Harvard Medical Alumni Bulletin, is spending part of this year working on issues of death and dying in the HMS curriculum. He is planning to do a residency in either internal medicine or psychiatry.*



photo by Paula Lerner

# Canadian Dream Gone Awry

by Kenneth F. Walker

SHAKESPEARE, IN HIS PLAY *THE Tempest*, writes that "misery acquaints a man with strange bedfellows."

Critics of the U.S. health care system complain that it's in a miserable state. They argue that it's disgraceful that 37 million citizens are without

health insurance and others have inadequate medical coverage. The solution, they contend, is to look north to the Canadian health care program.

My advice, as a physician practicing in Canada, is to remember Shakespeare's sage remark. The truth

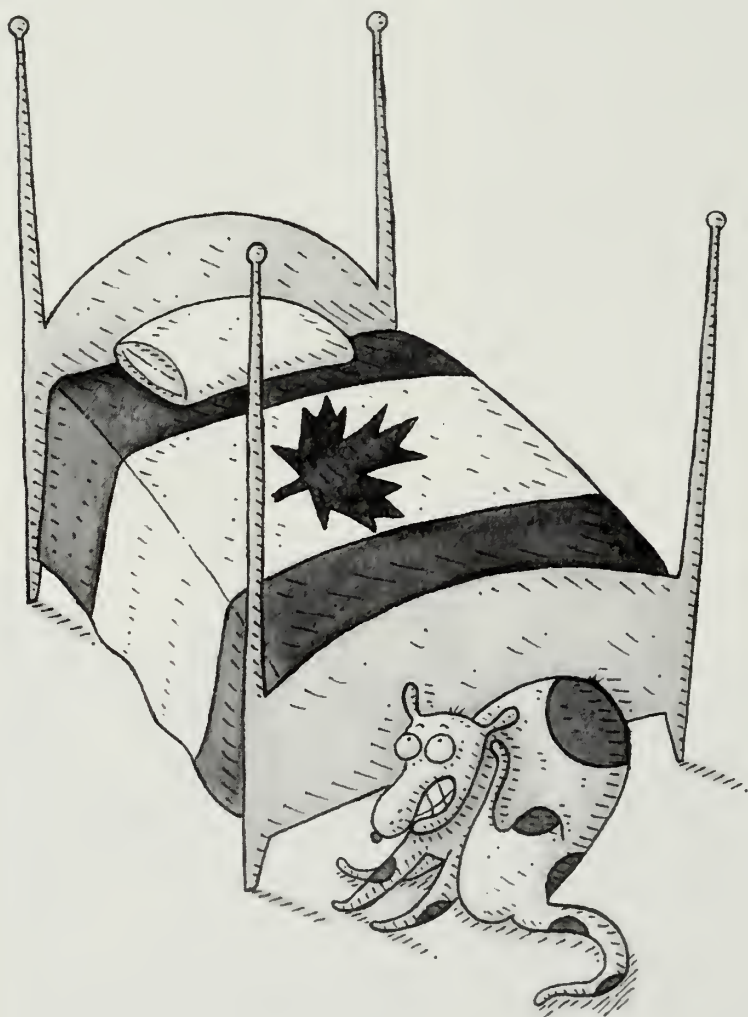
is that the once revered Canadian system has become a trifle mangy, so think twice before you decide to jump into bed with us. It's been aptly said, "If you go to bed with a dog, you get fleas." Go to bed with our health plan and you will get more than fleas.

Twenty years ago politicians told medical consumers in Canada that "universal health care" was a basic Canadian right. We were told that universal access to all services was to be etched in stone and would become a model for other countries.

I predicted in my syndicated medical column years ago that it was doomed to failure. Too many patients and doctors would overuse the system and kill the goose that lays the golden eggs. This has happened.

Hospital beds have been closed. Physicians are being asked to take specified days off during the year to help decrease costs. Cancer and dialysis patients are waiting in line for treatment. Certain previously insured services have been eliminated from the plan. And although it would have been considered sacrilegious a few years ago, provincial governments are talking about instituting user fees. In a nutshell, the government has run out of money. The Canadian dream has evaporated.

What went wrong? To answer that question you must first ask what went wrong with Canada. Then ask what happened to the health plan, and lastly about medical consumers. All three



illustrations by Manuel King

*"If you go to bed with a dog, you get up with fleas."*



components set the stage for disaster. And everything that has happened in Canada can also happen in the United States.

An economist once remarked that "If you keep going to hell you'll eventually get there." One does not have to be a graduate of the Harvard Business School to realize that even a third-rate shipyard looks more efficient than the way recent Canadian politicians have been running our country. What is dead in Russia is alive and well in Canada—a social policy that has fueled inefficiency, graft, greed and eventual ruin.

This year the federal government will spend \$52 billion more than it receives in taxes; that's \$6 million an hour, \$144 million a day. Faced with such astronomical figures, Canada has become a debtor nation. And as goes the economy of a country, so must go its standard of medical care. I need not remind you that the United States is also a debtor nation.

So what has been the basic fault with the health system? An economist speaking in Toronto hit it on the head. He likened our health care to giving his daughter an American Express card upon graduation, then saying, "Darling, go and use it to buy anything you want." He paused and added, "If that doesn't worry you, I'll loan you my daughter."

Our brand of Canadian "credit card medicine" is a singularly unrealistic extravagance. There simply isn't enough money in the world to give every Canadian all the medical care he or she demands. Free medical care is like a smorgasbord meal; people become instant gluttons and develop an insatiable appetite for more and more medical treatment.

Thereby they tremendously abuse a universal system. Patients who are not acutely ill arrive routinely at emergency departments in ambulances to avoid paying for a taxi. Immigrants obtain false health cards, and bureaucracy has become too cumbersome and inept to track down misuse. It is naive

to believe that Americans would act differently if so-called "free medical care" becomes available. As Sir William Osler remarked, "The main thing that separates man from animals is their desire for pills."

There's another question that has to be asked in 1994: Why are so many people ill in North America when we are spending billions of dollars on health care? Canada spent \$66.8 billion on health in 1991—that's \$7.6 million every hour, or \$183 million every day. What has happened to people is best illustrated by another story.

When a man applied for a job at the railroad station, he was asked, "Suppose you saw a train coming from the east at 100 miles an hour. Then you looked west and saw another train coming at 100 miles an hour. The trains were on the same track and just a quarter of a mile apart. What would you do?" The man scratched his head for a moment and replied, "I'd run and get my brother." "Why in the name of heaven would you get your brother at such a crucial time?" he was asked. The man said simply, "Because my brother has never seen a train wreck."

Today millions of people in Canada and in the United States are rushing toward a massive train wreck of premature degenerative disease that need never happen. I see it every week in my practice. And over the last 19 years in my medical column, I've tried repeatedly to describe the huge implications of this train wreck to readers, doctors and public health officials. Why? Because it has huge financial implications for the health care system.

I've said, facetiously, that I should have paid my editors for the privilege of writing my column. It has changed my life and my perspective about medicine. Without it, I would have remained a myopic gynecologist. With it, I've traveled the world and interviewed leaders in nearly every field of medicine. Writing my column has enabled me to see the forest as well as the trees. What I see worries me. It

also makes me realize why neither Canada nor the United States will ever be able to contain the costs of a free universal health system.

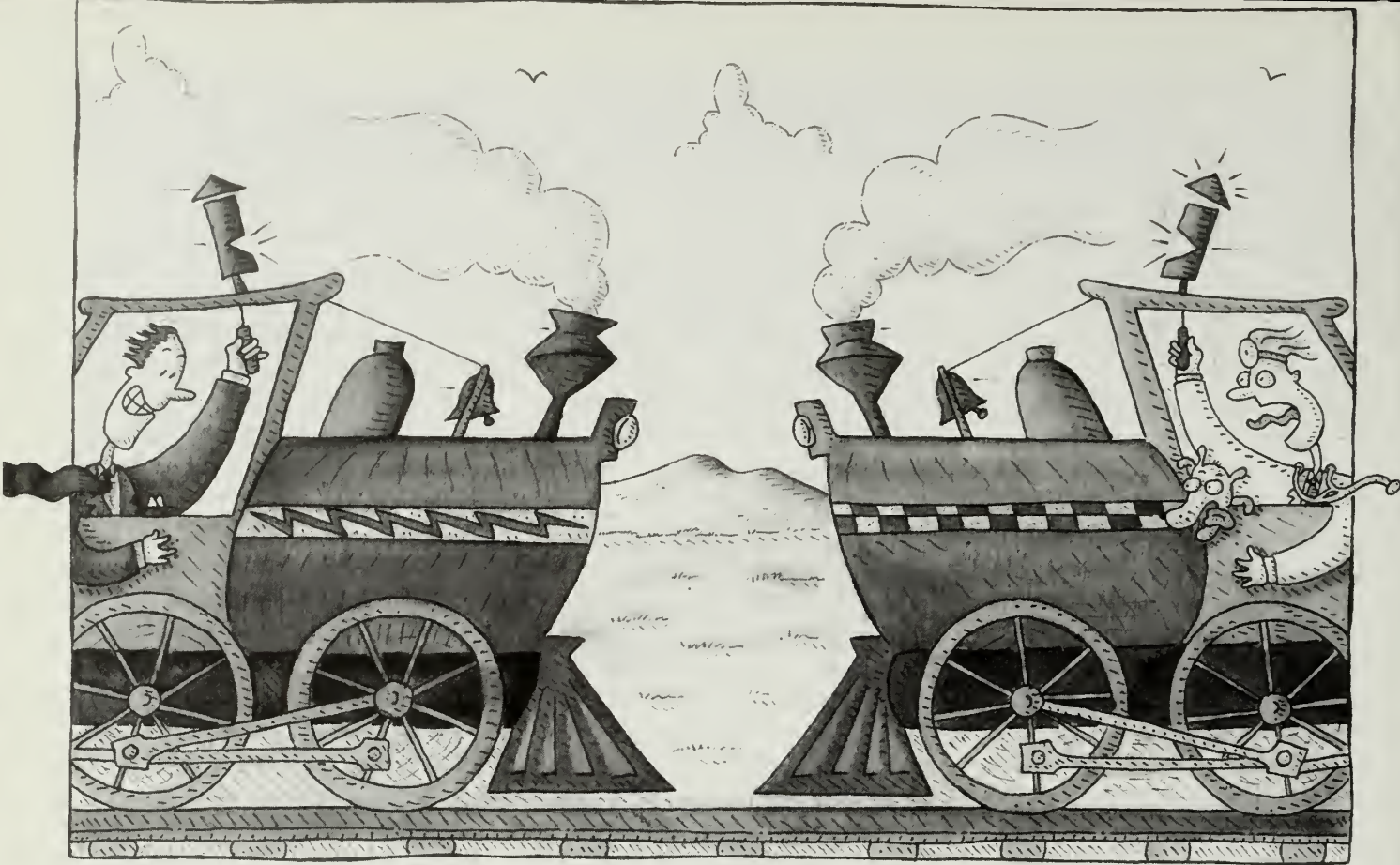
The longer I practice medicine the more I'm convinced there are two kinds of diseases: those we suffer inadvertently and those self-inflicted that occur largely because of human stupidity. The epidemic of degenerative disease coupled with a voracious appetite for medical care is an expensive combination. And this message has not yet reached medical consumers, but will soon.

I recall lectures at Harvard Medical School on preventive medicine dealing with infectious disease. But I can't remember professors lecturing about the degenerative problems that have developed into a raging epidemic. I tell my readers that preventive medicine has entered a new era, but people, even in the public health sector, seem to ignore it. Infection is largely past history. Now self-induced degenerative disease is the problem and unlike infection, it kills slowly at enormous cost.

Consider that every year 750,000 North Americans die of coronary heart disease—41 percent of Canadians die from this illness, and one in three people has a heart attack by age 60. But CHD used to be a rare disease. Paul Dudley White told my class that when he was an intern at the Massachusetts General Hospital in 1911 he rarely saw a patient with a coronary attack. Now we take it for granted. In fact we accept coronary bypass operations as casually as an appendectomy.

Today we talk about preventing cardiovascular and other degenerative problems, but too often it's all smoke and no fire. We should ask ourselves, "How can we prevent the epidemic of cardiovascular disease if we can't even stop people from losing their teeth!"

Henry Ford once offered a million dollars to anyone who could give him securely attached dentures. Today he has lots of company. Recent surveys show 8 percent of Canadians have lost



*"The economy ...*

*... and health care."*

all their teeth. In the province of Ontario, which has the best dental care, 19 percent of the residents age 50 to 64 have no teeth. And of those over 65 years of age, 40 percent are edentulous.

Several years ago I flew onto the nuclear carrier *USS Nimitz*. Seven dentists on this ship, working seven days a week, couldn't keep up with the sailors' dental caries—and the average age of the 6,000 sailors was 19!

But the greatest failure of preventive medicine is the epidemic of diabetes. I was taught at Harvard 45 years ago that 90 percent of diabetes was due to bad genes and 10 percent related to lifestyle. Now 90 percent is due to lifestyle and 10 percent due to faulty genes—a total reversal.

It's criminal that one child in five born today is destined to become a diabetic. But you only have to visit the supermarket to see the reason. Blatant obesity from overindulgence has become a normal part of North

American life. Death certificates may read heart failure, coronary attack or diabetes, but the real cause of death was the fat that clogged the system. Consider that every 60 seconds a new diabetic is diagnosed in North America. We would have a dozen Royal Commissions in Canada if every minute a new case of measles, polio or legionnaires' disease was diagnosed. And it would make the headlines of every newspaper in the world.

Is any action being taken to correct this problem? I once asked the minister of health if he knew that there were 8 teaspoonfuls of sugar in a 10-ounce soft drink. He didn't. But if any of us poured eight teaspoonfuls of sugar into a glass of water people would think we needed psychiatric care. Yet irresponsible ministers of health continue to allow soft drink manufacturers and other food producers to pour tons of sugar and salt, just to name two ills, into our foods.

Obesity, diabetes and excessive

amounts of sugar are not the only reasons for the pandemic of degenerative disease. But I believe they are the best examples of what has gone wrong with preventive medicine. I have explained to readers, only half facetiously, that the most important medical formula in the world today is  $EP=A+D$  (extra pounds equals atherosclerosis and diabetes). And with an aging population, these problems will only get worse.

Today, even age itself presents a problem for the medical system. It was OK for our grandparents to get old, to get sick and eventually to die. But today, people want to stay young, or at least look it, they never want to be sick, and certainly death is something they want to put off indefinitely. It reminds me of that great line by Woody Allen: "It is not so much that I am afraid of death, it's just that when it happens I don't want to be there."

Is there a way our present system in Canada or your proposed one in the United States would work? I can't see



it unless there is a major revolution in the thinking of government, pharmaceutical companies, doctors, public health officials and the public. And this means getting back to basics, something no one wants to face.

There is one way we might start back on the right course, however. At least it would be a start.

This is why I recently accepted an invitation to be the keynote speaker at the 1993 convention of the Non-Prescription Drug Manufacturers Association of Canada, whose theme was, namely, to teach the public about responsible self-care. It's my opinion that this is the only way any health care system can be saved from terminal death throes.

I asked the members: "How responsible do you want to get?" I warned them I didn't believe any industry has crippled more human bowels than the NDMAC by pushing the use of laxatives that most people don't need, or by using Madison Avenue techniques to sell the unsuspecting public sleeping pills that would be better poured down the drain.

Is any company that makes laxatives going to inform the public that they are harmful and say stop buying them? Would the company stress instead that consumers should eat more oat bran and fruit and develop better bowel hygiene; or that they should buy a good book rather than sleeping pills? I cannot not see any president of a pharmaceutical company committing that type of hari kiri.

Many of those in attendance at the convention knew that I had spent years fighting for the legalization of heroin in Canada to ease the agony of terminal cancer patients and that I was in favor of pain relief. But I've never suggested that patients should take minor painkillers at the drop of a hat, particularly double-strength ones. No drug company has ever mentioned that too many painkillers cause renal damage, nor that because of irresponsible self-medication, 5 percent of patients undergoing renal dialysis do so

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## *Medical consumers have to rekindle some of our ancestors' old frontier spirit and toughness.*

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because of the overuse of minor painkillers. This is a horrendous price to pay for short-term comfort. And it further damages a fragile health system.

Credibility as well as responsibility are necessary when teaching self-medication. But how can people trust pharmaceutical ads that use talking trees and stones in television ads to sell products unless they have the IQs of a five-year-old? For instance, the manufacturers of Tylenol use in their ads a very attractive woman telling consumers that to ease pain they should take extra-strength Tylenol. I agree she is an attractive woman and I'd be quite willing to have dinner with her, but do they really think I'm that stupid to accept her medical advice, particularly when she wants to damage my kidneys? Thanks, but no thanks.

But if NDMAC could change its ways, responsible self-care could easily save badly needed dollars. Frank Young, a former U.S. Food and Drug Administration commissioner, conveyed this vital message to the public when he remarked, "Pennies for self-care save dollars in health care."

Self-care has been with us since the traveling salesman sold snake oil. For instance, British family physician Christopher Elliot-Binns surveyed several hundred patients and 88 percent admitted they had practiced self-care, often with the help of friends and relatives, before consulting him. John Wilkinson, MD, a family doctor on this side of the Atlantic, did a similar study. Again, 90 percent of his patients had

attempted self-care. But does it work?

A report in the *Journal of the American Medical Association* describes a group of family physicians who divided their 875-member family practice into two groups at the start of the winter flu season. One group received instruction on how to deal with colds and the flu; the other group did not receive any special instructions. The group that was encouraged to practice self-care had 44 percent fewer visits to doctors. Equally important, the self-care group had not suffered more medical complications than the group who had visited their doctors. I'm sure what applies to the flu also applies to many other minor medical ailments.

But how could the nonprescription drug industry sell responsible self-care to the public? I suggested in my address that if I have something wrong with my car, I don't ask a seductive woman, my mother or talking trees for advice. I go to a reputable mechanic, and if I have a leaking pipe, I go to a plumber.

Drug companies need to find a "John (or Joanne) Smith, MD" with impeccable credentials, who is effective on television and who, above all else, is believable. Someone who can convince the public that the pharmaceutical industry is not solely interested in selling more pills. He or she should then hammer home certain fundamentals to the public. A good start would be to remind them that Abraham Lincoln once said, "You cannot help men permanently by doing for them what they could and should do for themselves."

Medical consumers have to rekindle some of our ancestors' old frontier spirit and toughness to remember the time when visits to physicians weren't triggered by a simple cold, sore back or other self-limiting problems. People survived in the past without seeking advice on these minor problems and they can do so in 1994.

Sir William Osler's advice on how to treat a cold still has some merit in 1994. He advised putting your hat on



*"Ambulance!"*

the end of the bed, then drinking scotch until you saw two hats!

"John (or Joanne) Smith, MD" should then take a sledgehammer and hit the consumer over the head with this next point: if John Q. Public wants to be treated in a hospital for serious illness, he had better start to practice responsible self-care right now. If he doesn't, he won't get his foot in the door for coronary by-pass surgery and other serious medical problems. The health care system will be broke from treating too many frivolous complaints and preventable diseases.

In a nutshell, "John (or Joanne) Smith, MD" must inform the public that the health care system cannot survive unless the public adopts a sensible lifestyle. But one must add this proviso: it means getting smart early in life. It doesn't do any good to see the light at 60 years of age. "Dr. Smith" must point out that wise consumers do

at the beginning of life what fools attempt at the end.

"Dr. Smith" must also debunk the myth, believed by too many people, that medicine is like religion. Christians claim you can be a hell-raiser all your life, but get through the pearly gates if you get down on your knees and repent at the end. "John (or Joanne) Smith, MD" should point out that medicine doesn't have a benevolent God. It does no good for families to say following the death of a loved one, "Why did it have to happen? He was only 45 years of age?" We must start telling people there was good reason it happened: he couldn't stop indulging himself; he was grossly overweight; he smoked two packs of cigarettes a day; he watched television too many hours; he drove his car to the corner store; he always headed for the escalator rather than the stairs. He was in effect, the architect of his own mis-

fortune, or as Shakespeare wrote, "The fault dear Brutus is not in our state, but in ourselves."

I'm sure that hell will freeze over before the NDMAC takes any of my advice, and I don't have any delusions that medical consumers will take the English physician Sir Thomas Sydenham's counsel: "The arrival in town of a good clown is worth more than 20 asses laden with pills."

I'm equally certain that the Public Health Service will continue to sit on its hands while the epidemic of diabetes rages on and the incidence of tooth decay will not decrease on the USS *Nimitz*. No one is willing to call a spade, a spade.

What will happen in the United States? My crystal ball indicates the politicians will win. They will be convinced that Bill Clinton has indeed discovered a free lunch and his health plan will save money in the long run. But as the English economist and monetary expert John Maynard Keynes reminds us, "In the long run we are all dead."

Like Canadians, the U.S. public will be persuaded that certain facts about the health plan are for sure. They will forget that, as the saying goes, "It's not the things you don't know what gets you into trouble, it's the things you know for sure that ain't so." The United States will then blunder its way through the same mistakes made in Canada. After all, time and time again it's been shown that the only thing we learn from history is that we do not learn from history! ❧

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# The Mayor of Boston City Hospital

by Guillermo Sanchez

*Coming off the elevator after a five-hour operation for stomach cancer... jouncing on the stretcher... he looks up at his son and says: "Franno, I wish to announce the first plank in my campaign for re-election... We're going to have the floors in this god-damned hospital smoothed out."*

The Rascal King by Jack Beatty

SUCH WAS THE END OF AN 84-YEAR love affair between the four-time mayor of Boston and the Boston City Hospital. It began in 1874, when James Michael Curley was born on the third floor of a flat on North Hampton Street, so near the water's edge that "bowsprits raked windows," he writes in his memoirs. Across the filthy waters of the Roxbury Canal, one could see the buildings of Boston City Hospital, inaugurated only 10 years before.

When Curley was seven years old his younger brother died, and when he was ten his father had a fatal stroke while lifting a massive weight. The boy and his older brother had to go to work while still attending school to support the family. This seems to have been central—as his biographer, Jack Beatty, points out—in directing his career to "the business of protecting people from illness, hunger, and unemployment."

From very early on, Curley was active in his Irish neighborhood in

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*Across the filthy waters of the Roxbury Canal, one could see the buildings of Boston City Hospital.*

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helping the needy to find jobs and, in the process, accumulating the IOUs that would be crucial to his later electoral successes, beginning with his election as city councilor in 1899.

In 1903 he was sentenced to jail for taking a civil service examination for a friend and while there he was elected alderman. He was mayor from 1914 to 1918 and again from 1922 to 1926, 1930 to 1934, and 1946 to 1950, the last served partly while in jail again on a separate charge. He was twice elected to Congress and was governor from 1935 to 1939. Throughout his career, in his role of "Mayor of the Poor," he cared a great deal about the health of his constituents and he was a major advocate of public programs and institutions that contributed to making Boston a model for other cities.

On November 1, 1924 at the dedication of the North End Health Unit, the first of several in the city, Mayor Curley said: "It is fitting that this milestone...should be erected within the shadow of the Old Christ Church, out of whose belfry was hung the lantern which lighted the way to the emancipation of the people of the world....About a week ago we dedicated for the people of Boston the largest and most complete out-patient building to be found controlled by any municipality in the world at the Boston City Hospital."

On the same occasion George E. Vincent, MD, president of the Rockefeller Foundation, said: "To the Mayor this must be a welcome day. He sees the fulfillment of a plan of which he has been a persistent advocate. There have been doubts and obstacles....The public...is not easily excited by so dull a thing as health; and it hates to pay taxes. It took faith and steadfastness to carry through this project." Only a year before, the Thorndike Memorial Laboratories had been inaugurated at Boston City Hospital, with Curley's blessings.

In 1926, in a farewell dinner to Mayor Curley, George C. Shattuck, MD, professor at Harvard Medical School, commented:

# THE MAYOR OF THE POOR



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## *Humane Experienced Leadership* **ELECT** **CURLEY**

*In his first administration he planted in the West End a seed of a kind that was new to Boston and about which little was known anywhere in the world...By appreciating the wonderful possibilities of the seed and by placing it in devoted hands for cultivation, Mr. Curley showed another instance of his great intelligence.*

*The seed grew well, it flowered very appropriately on Blossom Street, and brought forth fruit in the shape of the West End Health Unit. Another crop of*

*the same sort is now ripening in East Boston...*

*But Mr. Curley's visions about prevention of the needless suffering caused by disease have not been limited to the establishment of health units...*

*...[from] the survey recently made of the activities of public and private health organizations in the large cities of the United States by the American Public Health Association...there seems no doubt that Boston will head the list for organiza-*

*tions of health work.*

*As a citizen of Boston and as a physician who has closely followed the development of the new health programs in Boston, I am glad of this opportunity to congratulate the Honorable James M. Curley for these successes, to thank him for the important part he has played in connection with them, and to say that in the field of health he seems to me to have shown conspicuously his well-known ability as an able and constructive executive.*

Important as Curley's public health efforts were in the construction of health units, the centerpiece of his program was always the Boston City Hospital. It grew and flourished into one of the leading teaching and research centers in the country, with more and more buildings and personnel and generous budgets supported by Mayor Curley. It remained a highly sought-after institution for young physicians in search of the best possible post-graduate training and its alumni, after learning from such luminaries as Francis Peabody, George Minot, William Castle, Chester Keefer and many others, left to fill important academic positions in this country and abroad. These young men—and a very few young female doctors—shared one problem: they were paid nothing during their arduous years of training.

Up until the late 1940s, the teaching hospitals gave their house officers room and board but no stipend. I remember being advised in medical school that any hospital offering pay (the ones attached to the Hawaii pineapple plantations gave a princely monthly wage of \$250) was to be avoided. Veterans returning from World War II and entitled to the GI Bill had these monies go directly to the general hospital funds.

The house officers were apparently mildly unhappy with this state of affairs and in 1946 formed a BCH House Officers Association. After a preliminary abortive attempt at organizing that led to the leader's depar-



ture "under a cloud," the association developed an agenda that included: "1) its formal recognition by the administration; 2) the development of a house officer's manual; 3) house officer's parking; 4) housekeeping and dietary improvements; 5) expanded educational program; and 6) salaries for house officers."

All but the last objective were accomplished in the first year, including the establishment of a lecture series by distinguished outside figures, followed by a festive dinner to which the young physicians could invite their families. (Their requests to Mayor Curley apparently were transmitted to him by Mary Moore Beatty, MD, a trustee who was quite sympathetic to their needs.)

Not much more happened in the next two years, with many house officers apparently feeling that they were fortunate to be at BCH in spite of the lack of pay, and Martin English, MD, the president of the Board of Trustees, was quoted as saying they should be paying the hospital for the privilege of being there.

In late 1948 unhappiness escalated and, following a preliminary meeting and the formation of subcommittees, a major meeting was held in the amphitheater and the press was invited. The *Daily Record* of January 6, 1946 ran a photograph of the meeting on its front page under a banner headline: "Interns Sell Blood to Live." The story inside said: "Interns at City Hospital serving without pay, are forced to sell their blood to blood banks in order to afford such 'luxuries' as a new pair of shoes and carfare on the MBTA, a spokesman for the young doctors declared yesterday following a protest meeting of 75 young house officers at Thorndike Amphitheater."

(I believe that the spokesman at this meeting was a F. Robert Holter, MD, an intern in surgery, who expected to leave soon for an orthopedic residency at Johns Hopkins and because of this may have felt less afraid of retaliation than his colleagues. In 1977, with a

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*With jubilant surprise, interns at City Hospital received the news that they had won a complete victory in their demands for salaries.*

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good deal of difficulty, I traced him to Santa Barbara, California, where he worked in the Mental Health Services. The medical directory listed him as "psychodermatologist." He was displeased by my inquiries and very forcefully refused to share with me any memories of the described events. He moved shortly to Los Angeles and when I tried again, I was told that he had died in the interval.)

An intern was quoted as saying:

*The interns should send a letter of thanks to the trustees of the hospital for the fine education with no pay. By eating a little food, we keep our weight down and therefore live long. By working long hours, we don't get out into the elements and therefore we can't catch disease. By being in contact with acute infection, we develop immunity. And therefore we should memorialize the trustees to charge \$1000 a year, only just compensation for these kind privileges.*

There was no unanimity amongst the young doctors. Before the meeting began, John Cranley, MD, head of the interns association at the hospital, stated he had not known the meeting was to be held and added: "Although we want payment for our house officers, we have to stop somewhere. You may do what you wish, but we as an

organization are opposed."

Cranley's statement, however, did not prevent a young intern from declaring at the meeting: "Well, I am a rebel. If Dr. Cranley doesn't want anything to do with us, I will take over, by virtue of the interest every one of you has shown on the issue. Everyone is afraid to take a stand although you are willing to be here to discuss this question."

Mayor Curley's response: "The city will not comply with demands. The training these interns receive is invaluable. There is an overabundance of applications annually from all parts of the country. They do not pay interns in other hospitals and I see no reason why we should. It would mean an expenditure of \$250,000 a year."

The next day, January 7, the *Daily Record*, under the headline "Interns Convince Curley and Win Pay," stated:

*With jubilant surprise, interns at City Hospital received the news that they had won a complete victory in their demands for salaries in addition to board and room allowances, and that Mayor Curley, who had originally opposed their petition, had undergone a 24-hour change of mind in their favor.*

An intern commented, "I guess we were right about the mayor. We figured he would want to hear our side of the story. Be sure and thank him in your newspaper, particularly for the fellows out here with wives and children."

Mayor Curley added: "I know of no recognized hospital that does pay interns other than New York's Bellevue Hospital," he said. "But I realized we are living in a different era. Within the last two years we have increased the pay of all City Hospital salaried employees about \$14 a week. That includes even the cleaners."

"So we can't refuse the interns' requests even though it isn't customary to pay them. I have always maintained an underpaid worker is never a good worker."

Finally, on February 14, Mayor Curley wrote John Manary, MD, superintendent of BCH:

*I have discussed the matter of increases for interns at the City Hospital and have found that they are dissatisfied with the scale that was recommended and which was put in operation. I confess that, in looking the situation over, I find myself in agreement with them and, provided the trustees see fit, I am agreeable to the scale which I herewith submit being put in operation, starting July 1st.*

*Under the old system, and in fact under the new system which has been agreed upon, I find it difficult to understand how any person other than one with wealthy parents or moneyed friends, can ever become a graduate doctor from Boston City Hospital. I am quite certain that upon reflection you will agree with me in this connection, and if we can do away with the unfair system that has so long obtained and give the poor man that has ability and desires to become a physician or surgeon the opportunity, I think it is clearly our duty to do so.*

*In the event that the Board of Trustees sees fit to grant the new wage scale, effective July 1st, I am agreeable to putting it into effect and finding the necessary money to put it through.*

As is clear throughout, it was Curley who made all significant decisions and one suspects that he was sympathetic all along to the young physicians' needs. One of them, in replying to my inquiries, could not remember details but recounted an anecdote from the emergency ward, confirming once more the close ties between Mayor Curley and the hospital: "During the time that Mr. Curley was doing time in the federal penitentiary in Danbury, Connecticut, every ambulatory citizen who presented himself at the desk in the emergency room was required to sign a document, the nature of which was carefully concealed but was, in fact, a petition for the release of His Honor.

"Someone in the administration truly touched the hospital's harridans by having cake and coffee to celebrate Mr. Curley's coming out early in 1949."

As expected, the granting of salaries

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## *One suspects that he was sympathetic all along to the young physicians' needs.*

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to the house staff significantly raised costs at the hospital: physicians' salaries increased from \$70,720 in 1948, to \$228,119 in 1949, and to \$284,955 in 1950. Daily costs for a ward patient went from \$12.69 to \$15.38 to \$16.59.

In 1864, when it opened, BCH had five house officers receiving only "maintenance." In 1948, there were over 250 house officers but they still received only room and board. Today starting pay is in the neighborhood of \$30,000, albeit without the free room and board of the past. Current house staff should perhaps be aware of their distant debt to James Michael Curley.

During these negotiations, the hospital administration and even the house officers' leadership objected to the concept of paying the young physicians and Mayor Curley, while initially against the project, reversed his stand over night and thereafter was an enthusiastic supporter. The move by BCH had an enormous impact on medical training programs throughout the country. Within a year most of the teaching hospitals followed suit and a living wage for house officers became accepted and expected.

Recent experiences have increasingly pitted politicians, as presumed defenders of the rights of their constituents—the consumers of medical care—against the caregivers: hospitals and physicians. And yet Mayor Curley, the ultimate politician, clearly enjoyed a cordial and highly cooperative relationship with the medical establishment, in spite of the opposition of the administrators he himself had appointed. (There was one exception:

his support for the Middlesex Medical School, which the Massachusetts Medical Society tried long and fruitlessly to close down.)

When Mayor Curley required hospitalization, he always preferred BCH and he did so for his final illness, a gastric malignancy. It was rumored at the time that his surgical attendants, expecting a bad outcome and fearing a public outcry, elected to operate on the day of the new pope's coronation, an event that was likely to take the principal headlines of the day. Although one of the physicians involved with his care has assured me that it was a coincidence, surgery did take place on November 4, 1958, a day of national elections and of the coronation of Pope John XXIII. In a characteristic gesture, Curley insisted on voting before being taken to the operating room. Eight days later, and after another futile operation, he was dead. ❧

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*Acknowledgments: Over the last 10 years I have interviewed many former BCH alumni and have corresponded with others. Interestingly, very few remembered the incidents described, though I am indebted to all for their help. Special thanks are due to Robna and Melvin Schoul, MD, Margaret Hannigan, MD and James V. Sacchetti, MD, the only one who knew Mayor Curley personally.*





